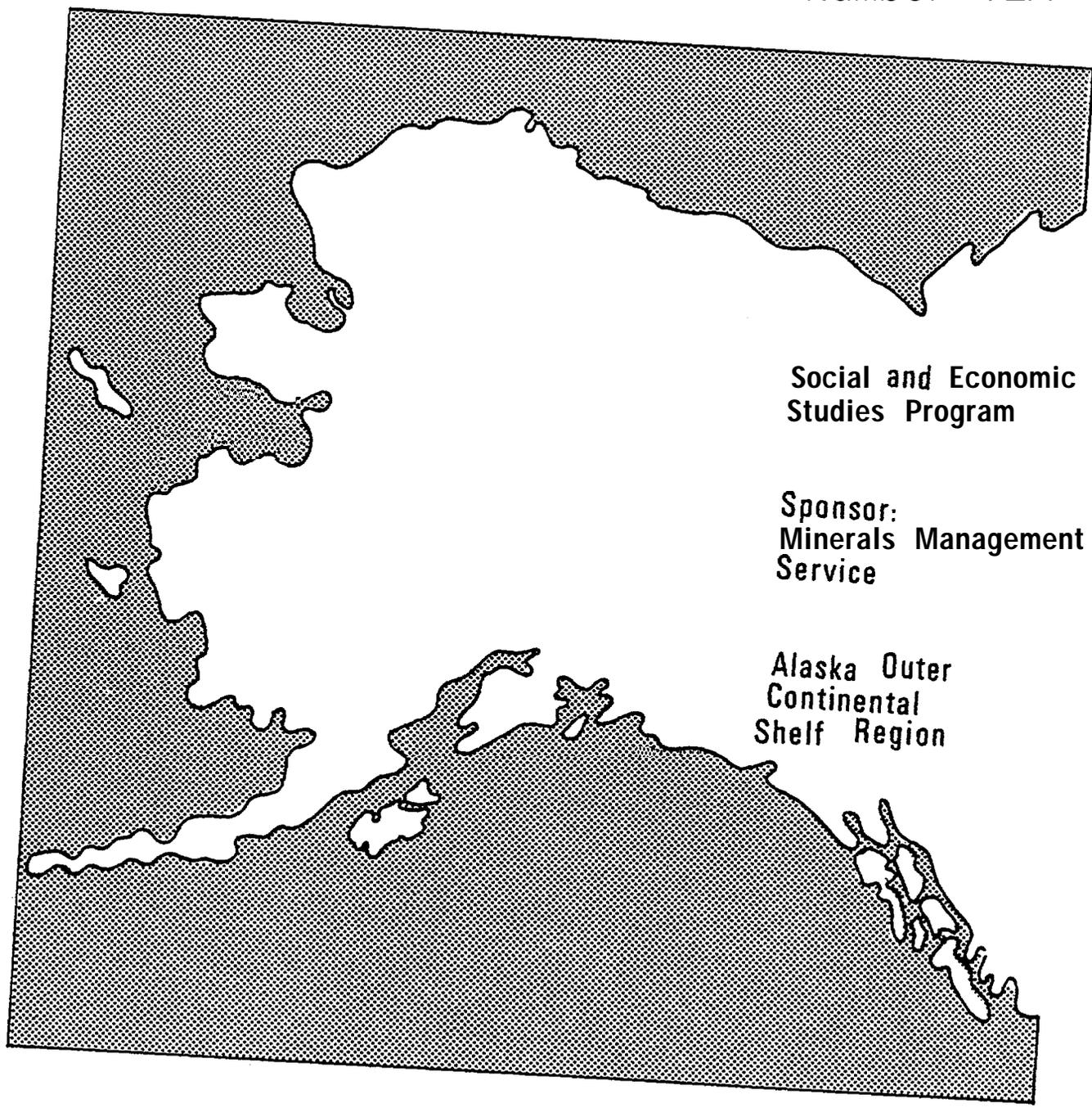


OFFICE COPY

Technical Report  
Number 92A



Social and Economic  
Studies Program

Sponsor:  
Minerals Management  
Service

Alaska Outer  
Continental  
Shelf Region

# Unalaska: Ethnographic Study and Impact Analysis

## Executive Summary

OFFICE COPY

TR 92A

Technical Report #92

Contract Numbers  
BLM AA852-CT2-35  
MMS 14-12-0001-29009 .

ALASKA OCS SOCIAL AND ECONOMIC STUDIES PROGRAM

EXECUTIVE SUMMARY

**UNALASKA: ETHNOGRAPHIC STUDY AND IMPACT ANALYSIS**

PREPARED FOR

MINERALS MANAGEMENT SERVICE  
ALASKA OUTER CONTINENTAL SHELF REGION  
LEASING AND ENVIRONMENT **OFFICE**

AUGUST 1983

**BY:**

IMPACT ASSESSMENT, INC.

John S. **Petterson**, Ph.D.  
Lawrence A. **Palinkas**, Ph.D.  
Bruce M. Harris, **Ph.D.**  
**Michael A.** Downs, **M.A.**  
Beverly Holmes, **M.A.**

# **Unalaska: Ethnographic Study and Impact Analysis**

## Executive Summary

### Objective of Report

This report provides an analysis of existing trends and potential changes in the socioeconomic and **sociocultural** systems that comprise the community of **Unalaska**, Alaska. The object of this report is to provide a baseline ethnographic description of **Unalaska** and to determine the conditions under which this community is expected to change within the next seventeen years. Of particular interest is the likelihood of population growth and economic development under the assumption that a significant development in the American groundfish industry in the Bering Sea will occur in the near future. The prospect of the impacts of oil-related development on the community are also examined in a series of secondary scenarios.

This executive summary will briefly outline the relevant aspects of the socioeconomic and **sociocultural** systems of **Unalaska** as contained in the ethnographic baseline description. A description of the scenarios and a summary of the forecasts contained in specific impact categories is also provided.

### Brief Background on **Unalaska**

The City of **Unalaska** is located on the Bering Sea side of the Fox Island group of the Aleutian chain in southwestern Alaska, approximately 800 miles from Anchorage. The city is located on two separate islands, **Unalaska** Island and Amaknak Island. The islands are separated by **Iliuliuk** and Captains Bays, both of which are part of the larger **Unalaska** Bay. Adjacent to Amaknak Island is a protected area known as Dutch Harbor. **Unalaska** has historically been two separate communities, **Unalaska** Village inhabited largely by **Aleuts**, and Dutch Harbor, inhabited by Euro-American traders, businessmen, and, during World War II, several thousand American servicemen. However, both communities lie within the city limits of the City of **Unalaska**, incorporated as a first class city in 1942. The construction of a bridge joining the two communities in 1979-80 has also served to unite the two into one community.

Throughout its history **Unalaska** has served as a commercial, transportation and administrative center for the Aleutian region. Founded on the site of the traditional **Aleut** village of **Iliuliuk**, **Unalaska** was used first by the Russians and then by the Americans as a center for the fur trade. The proximity to **Unimak** Pass, connecting the Bering Sea with the North Pacific Ocean, the presence of a natural deep water port, a supply of cheap labor, and the richness of available natural resources, primarily fish and marine mammals, have all been major factors in the growth of **Unalaska** as a regional center.

In the recent past, **Unalaska** has experienced dramatic growth in its population and economic structure. The population increased from 342 in 1970 to 1,977 in 1977 and by 1979 the community had become the number one port in the United States in terms of the value of seafood product

landed. This growth has primarily been the result of enormously successful harvests of King Crab in the 1970s. However, in the past few years, there has been a significant decline in the amount of crab caught, precipitating widespread concern for the community's future. In response to this decline, two alternative sources of economic growth and development have been considered by local residents, the development of a **groundfish** industry and the oil-related activities resulting from exploration and exploitation of resources in the St. George, North Aleutian and Navarin Basins. The extent to which the community will be affected by these alternatives, however, depends to a great extent on existing developments and the structure of values and organization of activities in **Unalaska**.

### Ethnographic Baseline

The ethnographic baseline of **Unalaska** is organized into two major sections: environment, and socioeconomic and **sociocultural** structure. The community's environment consists of a number of internal and external forces which act as independent variables affecting the current socioeconomic and **sociocultural** system of the community. These variables include the local ecology, **extrasocietal** forces such as external governmental agencies, external commercial influences, neighboring communities in the region, and the larger Euro-American **sociocultural** system. **Intrasocietal** forces such as the demographic structure of the **local** population and existing community facilities also may be viewed as independent variables or input, largely because of their relationship to the other components of the socioeconomic and **sociocultural** system. The historical circumstances which have contributed to the development of the contemporary socioeconomic and **sociocultural** system also are examined.

The second major section of the ethnographic baseline description is referred to as the structure of the socioeconomic and **sociocultural** system. This structure consists of a system of values possessed by the various segments of the **local** population as well as the organization of activities. These activities are separated into categories of economic structure, social organization, political structure, religion, **education**, health care, **social** services, and recreation.

#### Environment

In certain respects, the ecology of the immediate vicinity of **Unalaska** and of the entire Aleutian region serves as a constraint or boundary to the socioeconomic and **sociocultural** system of the community and limits the prospect of future growth and development. Two features of the ecological input are particularly noteworthy as constraints. One is the geologic and geographic features of the **community's** location. Existing on two separate **islands**, both of which are characterized by **hills** and mountains with steep slopes and coastlines with significant erosion in certain areas, the amount of land in **Unalaska** available for development is quite limited. A second feature of the local ecology has been the variability in local resources. Historically, the community's growth has been tied to the exploitation of certain natural resources. In the nineteenth century, this growth was related to the harvesting of sea otters. In the late 1960s and 1970s, growth was based on the develop-

ment of the crab fishery. In all instances, however, a decline in the availability of the resource resulted in a downturn in the economy.

Despite these limitations, however, certain features of the local ecology favor **Unalaska** as a prime location for economic growth and development in the future. Its location close to the Unimak Pass separating the North Pacific Ocean from the Bering Sea means that vessels traveling in the region invariably rely on **Unalaska** as a port of call. The natural deep water port of Dutch Harbor, the only developed deep water port in the Aleutians region, means that large vessels, including containerships, are able to utilize the docks and other facilities in **Unalaska**, giving the community the potential for being a regional transshipment center. The rich stocks of groundfish in the Aleutians/Bering Sea regions create the potential for a prosperous groundfish industry. The possibility of oil-related development in nearby offshore lease areas also creates potential for economic growth and development in **Unalaska**.

### History

Much of the existing character of **Unalaska**, particularly the community's modes of adaptation to environmental change, is the product of a specific set of historical circumstances. Prior to Russian contact, **Unalaska** was the site of the **Aleut** village of **Iliuliuk**, one of several **Aleut** villages on **Unalaska** Island. Traditional **Aleut** society was based on a maritime subsistence economy. The **Aleut** population subsisted on a wide variety of resources, including sea otter, seal, whale, sea lion, numerous species of fish and water fowl, shellfish, and wild vegetables and berries. Forms of technology, religious beliefs, socialization and personality, and social interaction were **all** related in one form or another to this dominant economic activity. Political organization, originally **acephalous**, came to be centered on a chief who ruled by community consent and relations between communities were maintained by kin ties.

Although the natural resources in **pre-contact** times were usually abundant, resource availability was never constant and the **Aleut** communities of **Unalaska** Island were occasionally faced with famine and starvation. With the arrival of Russian explorers and traders in the eighteenth century, the economic structure underwent a fundamental change. A system of barter was introduced and the **Aleuts** were slowly brought into a cash economy. As with the subsistence economy, however, this new economic structure was dependent upon resource availability, and with the decline in the numbers of sea otters harvested in the late nineteenth century, the growth of **the** economy came to a halt and the community experienced a depression for several years. This state of affairs was interrupted a few times in the twentieth century, usually the result of a minor boom in economic activity associated with the harvest of local resources such as herring and fox furs. The presence of several thousand American troops at **Unalaska** and Dutch Harbor during World War II also inspired a brief period of growth, although this was counterbalanced by the evacuation of the **Aleut** population to southeastern Alaska. After World War II, it was not until the 1960s that the community began to experience any sustained economic and population growth. A crab fishing and processing industry emerged with the arrival of the

first shore-based processors and by the 1970s **Unalaska** became the number one commercial fishery port in the United States in terms of the **value** of the product **landed** and seven processors employed over **1,600** workers on a seasonal basis.

### **Extrasocietal Forces**

**Unalaska** is influenced in varying degrees by numerous external political, economic and social forces. The federal government has had a consistent influence in the area through several pieces of legislation and government agencies. It has influenced local fisheries through **its** establishment of, and vacillation concerning the enforcement of, the 200-mile limit, the Alaska Native Claims Settlement Act of 1971, oil lease area development, and federal agencies such as the Bureau of Land Management and **Burea** of Indian Affairs. The 200-mile limit is seen by local residents as being enforced by the federal government for their own purposes and not on the basis of local needs. Whether it is argued that the limitation has hurt the crab fishery by restricting the foreign groundfishing operations or that the legislation has come too late to prevent the overfishing of crab by foreign vessels, local dissatisfaction with U.S. enforcement of the 200-mile limit appears to be quite high. The Alaska **Native Claims** Settlement Act has had a pervasive impact on **Unalaska** through the establishment of the **Ounalashka** Corporation and the conflict between the City government and the Native corporation over the course and extent of **local** development. Federal agencies which have historically played a major role in the community, the Bureau of Indian Affairs and the Bureau of Land Management, now play minor roles as responsibilities are gradually being assumed by local agencies. Other agencies such as the Minerals Management Service, however, have the potential of playing a significant role should oil-related **development** occur in the region.

**Unalaska** is also affected by legislation and government agencies at the state **level**. Many of the projects essential to the future growth of the community are dependent upon the state for funding. These include the development of geothermal energy resources on **Unalaska** Island, improvements on the **City's** public utilities and expansion of the **Unalaska** airport. The variations in availability of state funds, which **in** turn are largely dependent upon the price of oil, will significantly affect developments or necessary improvements on existing community facilities which, in turn, are critical for continued economic growth. In addition, state agencies are represented in Alaska in the form of legal and **social** service agencies, including a branch of the state court system and an office of the Division of **Family** and Youth Services, Department of Health and Social Services. These agencies play key roles in the provision of necessary services which will inevitably increase should the population continue to grow in size.

The regional Native corporations, the **Aleut** Corporation and the non-profit **Aleutian/Pribilof** Islands Association, **also** have a considerable influence in **Unalaska**. The **Aleut** Corporation owns **all** subsurface rights of Native-owned land in **Unalaska** and has worked jointly with the **Ounalashka** Corporation on several local development ventures, including the construction of the APL docking facility. While the APIA is not as heavily involved in **Unalaska** as it is in smaller communities throughout

the region, their presence in the community has been noticeable in several different respects, including the construction of **H.U.D.** housing, funding for the health clinic, seeking of reparations for the losses incurred by **Aleut** residents by their forced evacuation during World War II, and hiring a clinical psychologist who is responsible for the entire region **but** is based in **Unalaska**.

The socioeconomic system of **Unalaska** is also significantly affected by numerous external commercial influences. Currently the major economic sector subject to outside influences is the fishery. Several outside corporations are represented in the processing industry and most of the fishing fleet is from outside the community as well. Fisheries-related economic activity in **Unalaska** is closely tied to the economic health of the rest of the country and different countries throughout the world which purchase seafood products processed in **Unalaska**. The suspension of activities in **Unalaska** during the past few months by many of the seafood businesses based elsewhere has had a tremendous effect on the local economy.

The **Unalaska** fishing fleet is also dominated by outside interests. Most fishermen who operate in the waters throughout the region, and nearly all of the "**highliners**" capable of harvesting huge amounts of fish or crab in a short time, are from the west coast of the United States, and Seattle in particular. Involvement of Seattle-based fishermen in the **Unalaska** fisheries has, according to many local residents, transformed the community into a "**suburb** of Seattle." From the 1960s to the present, the growth of the fishing fleet and the canneries, who mostly employ workers hired out of Seattle, has meant a dominant position for Seattle in the local economy and a flow of capital out of the area.

**Unalaska** is also affected by foreign commercial interests. The community is a transshipment port for many foreign vessels involved in the local fisheries. Foreign shipping agents handle the affairs of their respective fleets of fishing vessels and freighters in the area. Foreign fishermen utilizing the waters in the region include the Japanese, Soviets, Koreans, Taiwanese, Poles, and Canadians. Foreign interests are heavily involved in many of the processors in **Unalaska**, many of which represent joint ventures between foreign and U.S. seafood companies.

Outside commercial interests are also an important element of **Unalaska's** socioeconomic system in the fields of transportation and communications. Long distance telephone service is provided by **Alascom**, Inc. Shipping companies based in Seattle or elsewhere transport freight and other materials to **Unalaska** and processed seafood products out of the community. Regional air service between **Unalaska** and Anchorage and **Unalaska** and other communities in the region is provided by carriers based outside the community but which are important to its current socioeconomic system. Oil companies have begun to have a significant impact on the local economy as the number of seismic vessels in the region increase every year and as oil companies such as **ARCO** and **EXXON** lease facilities in the area for bases and staging areas. Increased oil-related activities outside the community has meant a few more jobs and greater retail and wholesale business for local commercial interests.

**Unalaska** is also heavily influenced by the larger **sociocultural** system. In the reference to being a "suburb of Seattle," it is acknowledged that the community is part of the larger **sociocultural** system in terms of values, social organization, economic and political activities. Perhaps the most pervasive impact of this larger **sociocultural** system has been the introduction of new sets of values, particularly those which are urban-oriented and place great emphasis on professional and bureaucratic expertise, education, social status based on **wealth** and occupations and the latest trends in **style** and taste. The rapid growth in **fundamentalist** Christianity is also evidence of the influence of values which originate outside the community. The growth of instrumental social ties, the introduction of modern technological conveniences, and the increasing trend toward consumer consumption are other examples of the influence of the larger **sociocultural** system on the community.

An important part of the external environmental input into the **sociocultural** system of **Unalaska** is reflected in the relationships between the community and neighboring communities. The four most important of these communities, both from a historical as well as contemporary perspective, are the **Pribilof** Island communities of St. Paul and St. George, and the Aleutian communities of **Akutan** and **Nikolski**. Throughout the past, **Unalaska** was linked to the **Pribilof Island** communities through kinship ties and subsistence networks. Salmon was sent to the **Pribilofs** in exchange for seals. Interaction between **Unalaska** and the **Pribilof** Islands was limited throughout much of the early twentieth century by government restrictions and lack of direct transportation links. As a result, much of this interaction occurred by way of Anchorage. Current relations between **Unalaska** and the **Pribilofs** are limited to a few social ties and involvement in the regional Native corporations. This situation is expected to change in the future, but exactly how it will change will depend upon the efforts of the Tandagusix Corporation of St. Paul to develop corporation-owned property at **Chernofski** Harbor on **Unalaska** Island. The Corporation is interested in developing the harbor for seafood processing and cold storage facilities. Should this development proceed, **Chernofski** Harbor would have a profound impact on the economy of **Unalaska** in both a positive and negative sense. Initially, this development would mean increased business for **Unalaska** commercial interests. Once the **Chernofski** development begins its own seafood processing activities, it could draw business away from **Unalaska**, adding to the already precipitous decline in the local economy. On the other hand, proposed developments in **Unalaska** could have a negative impact on the **Chernofski** development. Adequate facilities in **Unalaska** could diminish the demand for processing facilities at **Chernofski**, thus reducing the incentive for development. In any event, economic and political ties between **Unalaska** and the **Pribilof** Islands are expected to become more salient a part of **Unalaska's** **extrasocietal** input.

Of the other two communities in the region with whom **Unalaska** has had considerable contact in the past, only **Akutan** retains any significance for the socioeconomic and **sociocultural** systems of the community. There are relatively few cultural, social, or economic ties between **Unalaska** and **Nikolski**. **Nikolski** residents view their ties to the outside world more in terms of Cold Bay and Sand Point, despite significant genealogical ties with **Unalaska**. Because of the lack of available facilities and

employment opportunities, Nikolski is not expected to be a significant factor in the socioeconomic system of **Unalaska** in the near future.

**Akutan**, on the other hand, has considerable social and economic ties to **Unalaska** and development in **Akutan** could have a significant impact on **Unalaska's** socioeconomic system. The connections between the two communities have both historical and contemporary, **Aleut** and **non-Aleut**, and social and economic in character. Historically, the two communities have been tied together by the kinship links among **Aleut** residents. However, the network of traditional kin-related ties today is insignificant. Direct kinship ties between two or three families in **Akutan** with families in **Unalaska** exist and in the past served as a basis for some seasonal migration for employment purposes and the attendance of some **Akutan** children at the **Unalaska** school. With the emergence of a separate processing industry and the construction of a school in **Akutan**, however, these links have become inactive and do not appear to provide improved access to economic opportunities in the foreseeable future.

Recently additional links have been formed between the **Non-Aleuts** in both communities who worked for seafood processors in **Unalaska**. The managers of both of the shore-based processors in **Akutan** and many of the administrative personnel are former employees of processors based in **Unalaska**. Many of the local processors now based in **Akutan** moved there from **Unalaska** within the last four years for several reasons, including: (1) the inability to obtain discharge permits in **Unalaska** because of overcrowding, (2) intense competition to purchase a fisherman's catch, (3) a lower fish tax in **Akutan**, and (4) the greater potential for expansion in **Akutan**. These factors could have a significant impact on the socioeconomic system of **Unalaska** as well as the social and economic relations between the two communities, particularly in the event of significant groundfish industry development in the region.

### **Intrasocietal Forces**

There are three aspects of the community of **Unalaska** which serve as **intrasocietal** forms of input into the local socioeconomic and **sociocultural** systems. They are the local community facilities, private development and demographic structure of the population.

Community facilities in **Unalaska**, with a few exceptions, are **generally** regarded as being adequate for current needs and, given the recent decline of the crab fishery, will undoubtedly be adequate to meet the community's needs for the next few years. However, in the event that significant development of a regional groundfish does occur, improvements in the community's transportation facilities and local utilities will undoubtedly have to be made.

Electricity in **Unalaska** is supplied by a city-owned electrical utility which supplies power to customers on **Unalaska** Island and numerous individual generators at each of the seafood processors and other installations on **Amaknak** Island which supply their own specific needs. The **Ounalashka** Corporation supplies power to its **rental** units and facilities on **Amaknak** Island. The sum total of these electrical facilities results in a **total** installed generation capacity of 13,530 kW (as of March 1979) with a non-coincidental kW demand of approximately

7,780 kW. Generation of electrical power is accomplished through the use of diesel driven generator sets of 900 kW or less capacity. A 416(.)/208 volt distribution system is limited to **Unalaska** Island and consists primarily of overhead lines which are in need of **repair** or replacement. The City has made plans, however, to establish a grid system which would provide power to the entire community, including **Amaknak** Island. Under this plan, a high distribution **line** connecting the boat harbor with the U.S. 310 bridge, slated for construction in 1983, would serve the existing residential and **small** commercial load, provide power to various public facilities, and have sufficient power to meet a portion of the power needs of local processors. Existing processor power plants would supply power to the City, in the event of an emergency, under this **plan**.

Both the sewage and water systems in **Unalaska** are comprised of facilities which were installed in the area during World War II. Both provide limited service and, in the case of the **water** system, an estimated one-third of the available water supply is lost through leakage. The water system also suffers from inadequate treatment and lack of adequate storage facilities, resulting in variable supply and quality. Both systems have been slated to improvements in the next few years.

Communications facilities in **Unalaska** are provided by the Interior Telephone Company and **Alascom**, Inc. ITC provides local telephone service to all of **Unalaska** and **Amaknak** Islands with the exception of Ski Bowl, which is without any service, and Nirvana Hill, limited to some residents only. **Alascom** provides long distance service as well as satellite television through an earth station located near the community. There is also a community television station which provides limited service on weekday evenings and weekends. Recently, efforts have been made to establish cable television service in **Unalaska** and there are now competing applications before the Alaska Public Utilities Commission for a certificate of public necessity and convenience. Local residents also receive radio broadcasts from station KDLG in **Dillingham** and the **Aleutian Eagle**, a biweekly newspaper is published locally.

**Unalaska** Airport is the major air transportation facility in the Aleutian chain and, with the exception of Cold Bay, provides the bulk of service to nearby communities. The airport serves as the major link between **Unalaska** and the outside world, yet is not capable of handling modern jet service. The existing airport facilities consist of a single gravel runway which is approximately 4,000 feet long by 100 feet wide, one apron, and amphibious aircraft ramp, passenger terminal, **Naval** Air Transportation Terminal used by Air Pac for its base of operations, airport fueling facility, and access roads. Service is provided by two regularly scheduled air carriers, Reeve Aleutian Airlines and Air Pat, and charter service to **Nikolski** or **Akutan** is provided by Peninsula Airways. Necessary improvements on the runway and other facilities have received preliminary funding and are **slated** for construction in the near future. Most local residents and officials concur that **airport** improvements are vital if the community is to serve as a regional transportation hub and benefit from any groundfish industry development in the region.

Other transportation facilities in the community include roads, harbors, and docks. There are 42 miles of roads in the area, none of which is paved although the City is responsible for maintaining all but six miles of this system. A bridge, constructed in 1979, links the two islands and has had a significant impact in joining together the two communities of **Unalaska** and Dutch Harbor into one community. There are several docks within the vicinity of **Unalaska**, most of which are owned and used by the local seafood processors. A new boat harbor and ship repair facility are also being constructed to encourage more outside fishermen to utilize local facilities and perhaps even reside in **Unalaska** for longer periods of time. Although many local fishermen are not optimistic about the new boat harbor's capacity to withstand heavy storm damage and accommodate anything but small vessels, the existing docking facilities are meeting current demands and proposed construction of new docking facilities should meet demands for the next few years.

There are three major groups represented in the private sector of community development in **Unalaska**. The largest group, by virtue of its membership and ownership of the majority of land in the area, is the **Ounalashka** Corporation. The second group consists of the local commercial interests in the community, a variety of businesses ranging from the seafood processors to small businesses. The third group consists of small landowners involved in developing their own properties for residential and commercial purposes. Each of these three groups is involved in three separate development activities: real estate, housing, and commerce. Through their efforts, new housing has been made available in the past few years, especially duplexes, new homes, and apartments. The **Ounalashka** Corporation, in particular, has been heavily involved in the renovation and renting of World War II era cabanas and other housing facilities. New **H.U.D.** housing has been made available for some residents while local landowners have subdivided their property for new housing developments. Nevertheless, the lack of adequate housing is still viewed as a major problem by local residents and a constraint to future development.

Private commercial investment in **Unalaska** is usually visible in three particular forms: capital improvements of facilities and equipment, provision of goods and services for local residents, and housing construction. The seafood processors in **Unalaska** have all been involved to various degrees in each of these areas of private investment. Universal Seafoods, which owns the **Unisea** complex, including a mall and inn, is the major commercial investment operation in the community. Less conspicuous, but equally important in terms of private investment are the small businesses in the community, including markets, hardware stores, cab companies, engineering firms, bars and restaurants, and service industries. Shipping lines also represent a source of private development in the community.

Real estate development in **Unalaska** is limited by the shortage of developable land in the area. Because of the steep terrain and sloping hillsides, only 1,896 acres out of a total of 16,300 acres within the City limits is considered to be developable. This land is owned by three major groups of property owners, the **Ounalashka** Corporation which owns 90 percent of the City's total land area, the City which is responsible for 1,280 acres scattered throughout the community, and

private landowners who own a total of 400 acres in the area. Each group has separate schemes for real estate development and despite the interest in development, there is currently no market for real estate in **Unalaska**.

**Unalaska's** population in the past **ten** years has been characterized as being largely transient, young, male, and increasingly Euro-American. Much of the increase in population in the past ten years has been due to **the** dramatic influx of temporary residents hired by the processors on six month contracts. In **1977**, transients accounted for 68.8 percent of **the** total population. This figure has begun **to level** off, however, as job opportunities for transient processor workers declines such that, in 1981, transients accounted for only 45.8 percent of the total population (see Table 1).

Table 1

Population of **Unalaska**: Residents and Non-Residents  
1960-1981

Census Year	Residents		Non-Residents		Total	
	N	%	N	%	N	%
1960 (a)	218	100.0	0	0.0	218	100
1970 (a)	178	52.0	<b>164</b>	48.0	342	100
1972 (b)	430	78.5	118	<b>21.5</b>	548	100
1977 (c)	615	31.2	1256	<b>68.8</b>	1971	100
1981 (d)	1054	54.2	890	45.8	<b>1944</b>	100

Sources: a. U.S. Bureau of the Census, 1960, 1970.

b. **Unalaska City** Council Census, **1972**.

c. **Tryck**, Nyman and Hayes. City of **Unalaska**, Census of Population, September 26 - October 8, 1977.

d. Department of Labor, State Demographer, State of Alaska: Special Census of **Unalaska**.

In 1977, 42% of the resident population were between the ages of 18 and 24 and 59% were males. The median age of **Unalaska** residents has decreased and the proportion of males has increased, both due to **the** large influx of young male immigrants. This is indicative of the frontier nature of **Unalaska**, especially during the height of the crab fishery boom, when there were greater job opportunities, other than processor jobs, for males rather than for females. **It** is the perception of local residents, **however**, that the sex ratio has recently begun to balance out due to the arrival of married or unmarried couples.

With the influx of these immigrants, the proportion of **Aleuts** to **non-Aleuts** has also changed significantly in the past ten years, as Table 3 indicates. In 1970, 63.4 percent of the resident population of **Unalaska**

was classified as Native Alaskan. By 1980, this proportion had declined to 15.1 percent. While a large part of this decline can be attributed

Table 2

City of **Unalaska**, Alaska  
Age and Sex of **Unalaska** Residents  
1977

<u>Age</u>	<u>Sex</u>		<u>Total</u>	<u>Percent</u>
	<u>Male</u>	<u>Female</u>		
0-4	23	18	41	7
5-12	28	40	68	11
13-17	28	19	47	8
18-24	46	46	92	15
25-34	107	56	163	27
35-44	42	23	65	11
45-54	40	22	62	<b>10</b>
55-64	19	14	33	5
65 and over	5	2	7	<b>1</b>
TOTAL	360	255	615	100
Percent				
1977	59	41		100
1970	55	45		100

Source: Tryck, Nyman and Hayes. City of **Unalaska**, Census of Population, September 26 - October 8, 1977.

to the influx of Euro-Americans who accounted for 64.1 percent of the resident population in 1980, another distinct ethnic category of Non-Native, Non-white is emerging, accounting for 19.3 percent of the resident population and over 60 percent of the transient population in 1980. These include Vietnamese, Filipinos and Mexicans.

As noted above, the current demographic composition of **Unalaska** is primarily due to the recent influx of immigrants. It is difficult to ascertain the contribution to overall population growth made by the birth rate because of the practice of giving birth outside the community in adequate medical facilities. Similarly, it is difficult to determine precise death rates for **Unalaska** residents because of the practice of leaving the community for medical treatment and care elsewhere. Until recently, emigration has been a negligible factor in affecting the demographic structure of the community. However, with the decline in the crab fishery and the limited prospects for immediate rapid economic

Table 3

**Ethnic Composition of the Population of Unalaska**  
1970-1980

<u>Ethnic Group</u>	1970 (a)		<u>Year</u> 1977 (b)		1980 (c)	
	N	%	N	%	N	%
Caucasian	56	31.0	387	62.9	848	64.1
<b>Black</b>	0	0	7	1.1	19	1.5
Native Alaskan	113	63.4	178	28.9	200	15.1
<b>Aleut</b>	107	60.1	166	27.0	-	-
Eskimo	5	2.8	8	1.3	-	-
Indian	1	0.5	4	0.6	-	-
Other	9	5.6	35	5.7	255	19.3
Unknown			8	1.3	-	-
-----						
TOTAL	178	100.0	615	99.9	1322	100.0

Sources: a. University of Alaska. Institute of Social, Economic, and Government Research. Age and Race by Sex Characteristics of Alaska's Village Population, 1973.

b. Tryck, Nyman and Hayes. City of Unalaska Census of Population, September 28 - October 8, 1977.

c. Bureau of the Census. Census Advance Counts: Persons by Race and Spanish Origin and Housing Units, 1980.

development, the number of transients entering the community is expected to decline, while the number of transients leaving the community is expected to increase in the next few years. Economic conditions could also affect the rate of emigration of semi-permanent residents as well.

#### Structure

Unalaska's sociocultural structure comprises a set of values and patterns of organization which respond to different forms of socioenvironmental input, in terms of characteristic patterns of behavior. In the report, the structure of Unalaska's sociocultural system is divided into the value system and the various subsystems which precede from these values. These subsystems include the local economy, political organization, social organization, religious institutions, health care, social services, education, and recreation.

#### Value System

The value system of Unalaska today may be characterized as being in a state of flux, resulting from several factors. Of particular importance are: (1) the rapid economic growth in the 1970s, (2) the large influx of outsiders attracted by this growth, and (3) the increased exposure to the wider sociocultural system. This flux is particularly evident in the increasing social heterogeneity of the community as well as the conflicts associated with opposing value systems.

There are currently three major value systems in **Unalaska**: traditional, "frontier," and modern. Associated with each of these value systems are different assessments of social status, different belief systems and world views, and definitions of self and social identity. The traditional value system, largely associated with the **Aleut** population, is also possessed in varying degrees by the older, **non-Aleut**, permanent residents of **Unalaska**. Included in this value system is a rural orientation, pattern of reciprocity based on kinship and locality, a respect for age and authority, emphasis on self-reliance in work but concern for the welfare of the community, and a preoccupation with subsistence activities. The value system characterized as frontier is derived from the community's historical isolation from urban centers and its economic dependence on the exploitation of primary resources. It is **rural**-oriented and gives emphasis to individual initiative, acquisition, enterprise and effort. It is also male-dominated and very competitive. Rules pertaining to social relations in a "civilized" context are relaxed somewhat and the environment is viewed as providing a wealth of resources to be exploited. The modern value system, in contrast, is largely urban-oriented and gives great emphasis to both individual initiative and "community spirit," relationships based on contract rather than status, economic success, and occupational expertise.

To a certain extent, it can be said that certain elements of each of these value systems are shared by all segments of the community of **Unalaska**, although these segments in themselves are identified and distinguished by their commitment to a particular value system. Nevertheless, there is in general a certain progression in the community as a whole from a traditional to a modern value system. This **is** reflected in the behavior, attitudes, and opinions of all residents, regardless of sex, age, or ethnic identity.

This progression does not occur without some difficulty, however. The influence of more than one value system within individuals, families, and the community as a whole has resulted in numerous forms of social and psychological conflict. These conflicts are not unique to **Unalaska** and are inevitable when an individual or a community must choose between two or more values. These value conflicts are evident in the formation of distinct social groups, each representing their own interests in social, political and economic activities. They are evident in generational conflicts which lead to alienation of youth and domestic violence. Finally they lead to psychological disorder, especially in the forms of identity crises, lack of self-esteem, depression, and alcoholism.

#### Economic Structure

The economic system of **Unalaska** can be divided into the cash economy and the subsistence economy. In the cash economy are the fisheries, both **commercial** harvesting and processing, entrepreneurial activity both small and large scale, alternative employment, including federal, state, city government and external commercial agencies. Subsistence includes fishing, hunting and trapping. We conclude with a discussion of the non-labor force.

The cash economy is dominated by the fisheries and fisheries-related

activities. Most of the non-fisheries activity is designed as support for the fishing industry. The most important fishery is the crab fishery. The community of today is essentially a **result** of the crab boom of the seventies and has been **little** affected by limited entry, unlike most surrounding communities. The crab boom peaked in 1979-80 and **has** since undergone a disastrous decline. This has caused considerable difficulties for local fishermen who have had to adapt to stay solvent. Several strategies have emerged as a result, including spreading the risk among a number of partners, -joint ventures **with** foreign processors, and conversion to **bottomfishing**. However, the latter is prohibitively expensive, particularly in these difficult economic times. Halibut has also been taken increasingly in the last several years, but mostly by outside fishermen.

The fishing industry, both from the side of the fisherman and the processor, is dominated by outsiders. Outside fishermen are the bulk of **the** fishermen operating out of **Unalaska** each season, and virtually **all** the workers at the processors are outsiders as **well**. Probably less than **a** dozen boats are owned by local fishermen, and they are of generally inferior quality when compared to the outsiders. Of these local fishermen even fewer are **Aleut**, and the **Aleuts** are by and large **not** involved in the commercial fishing industry.

The downturn in the crab industry has **left** the community **in** a general financial malaise which has affected nearly everyone, whether directly involved in the fishery or not.

The processing sector in **Unalaska** is the dominant economic sector **in** the community. There are a **total** of seven **large** processors in town capable of processing three million pounds of product per day, including **Pan** Alaska, Universal, Sea Alaska, Pac **Pearl**, East Point, Whitney and Sea Pro. Although the processing sector boomed during the heyday of the crab industry it has recently fallen on difficult times. Several of the processors have shut down temporarily or for good, and several others are operating at only one third to one **half** capacity. Most of those **still** operating have been forced to diversify into other products such as salmon, **groundfish**, herring and the **like**, but are **still unable** to operate economically. The main report discusses the capacity of each processor, those which have shut down, and the nature of the employment force for each.

The decline of crab has resulted **in** changes in work patterns at the processors. Since jobs are now more scarce than before the processing workers are tending to return more regularly to the same job season after season. Thus, the work force is becoming a more long term permanent group than was previously **the** case. Another recent trend has been the movement of several floating processors from **Unalaska** to Akutan, for reasons discussed above. A **final** trend of importance has been the move toward unionization of the processing and transportation related workers. This is an ongoing process which has so far met with considerable success, primarily under the aegis of the Inland Boatmen's Union.

## Entrepreneurial Activity

**Local** entrepreneurial activity includes both small and large scale commercial enterprises. The population surge of the last decade has resulted in population outstripping the support and service sector so such facilities are only now beginning to catch up with the demand. Such small scale enterprises as a bank, a garage, laundromat and **dry-cleaners** have opened in the last several years. There are also now construction companies, marine supply and repair, and cab companies. The **Ounalashka** Corporation has several small scale ventures operating including a truck rental service, the laundromat and a Chevron service station.

Large scale entrepreneurial efforts are headed by the major local retailers, including Carlts Commercial, Alaskan Commercial, Aleutian Mercantile, and the **Unisea** complex. Carl's is the major retailer on the **Unalaskan** side and consists of a store and motel complex. They also are a major supplier of fuel oil to the community and supply many of the oil-related operations now operating in the area. They also supply fishermen and summer research vessels. Alaska **Comercial** is located in the **Unisea** Mall on Amaknak Island and has been in operation several years as Carl's major competition. The Aleutian Mercantile is a third major retailer. AM has had a long history of extending credit to permanent community members and is located in downtown **Unalaska**. Universal Seafoods owns and operates the **Unisea** Inn and the Unisea Mall, major developments on Amaknak Island.

One other entrepreneurial effort is the **Ounalashka** Corporation's renovation of the World War Two sub dock for use as a drydock for ship repair.

There are several problems which have emerged in the business community in **Unalaska**, particularly in the last few years with the rapid growth which attended the crab boom. Many businessmen complain of the unreliable and slow deliveries to **Unalaska** by the major shipping concerns operating in town, and this has meant that the major retailers must devote an uneconomically large area to inventory. The Native corporation has also been the center of some problems, particularly according to those who wish to gain some land on which to start a business. The corporation has generally charged very high prices for rental or sale and this has discouraged expansion. Another problem is the availability of power sources. We have already discussed electrical power problems, and many feel the community should explore more closely the potential for geothermal power which has recently (August, 1983) shown significant improvement. Finally, several firms have complained that it is difficult to get enough dependable help. The labor force in the community is so shallow there are few available to work on a long term basis and even fewer who are interested in doing so, although some feel the situation has improved recently.

## External Commercial Agencies

As a major deepwater port and transshipment facility **Unalaska** is location for several major outside commercial agencies. These include shipping companies, air carriers, and energy-related companies.

Shipping companies in the community include SeaLand, which has been in town ten years and handles primarily domestic shipping, American President Lines, which has been in town four years and handles primarily international shipping, and Western Pioneer. Foss Alaska Lines recently ended their operations in **Unalaska** due to the loss of a contract to service the Naval station on **Adak** Island. Most shipping comes through the APL dock, the largest such facility in the community.

Commercial air carriers represented in **Unalaska** include Reeve Aleutian Airways and Air Pac. Reeve operates the airport and has flights to several other Aleutian/Peninsula communities as **well** as to Anchorage and Seattle. Air Pac began local operations in 1978 and their major route **is** to Anchorage. Both carriers move both passengers and freight. **Peninsula** also operates charter service out of **Unalaska**.

**Oil** companies are becoming increasingly evident and important in **Unalaska**. Chevron has had a facility in town for over 30 years and serves as a resupply point for almost everything north of **the** island. They have a storage capacity of 13 million gallons. There **are** several other oil companies in **Unalaska** currently as well, including **ARCO**, Shell, **EXXON**, and others who have **operatons** out of the community conducting studies of the lease **areas**. Several of these companies are currently discreetly attempting to find **land in Unalaska**.

The marketplace relations which characterize **Unalaska** depend almost exclusively on sources of **supply** and demand which are external to the community. Very few of the needs of the community are produced **within** the community itself. Most food, dry goods, business needs and the **like** are **imported**, so the community **is** closely **linked** with the outside economic world. The same is true of the products **sold** from **Unalaska**, notably fish products. These are sent to widely separated areas and the market of most concern to **Unalaska is** a national and international one, not a local one. Goods are moved into and out of the community by the carriers discussed above, and most of the large **local** commercial **firms**, such as Carlts and AM, have their own shipping capability for transporting goods.

In the past there have been suggestions that **Unalaska** should apply for FTZ or Port of Entry status, but currently there is no indication that either of these will be seriously pursued or granted.

#### Subsistence

Subsistence activities in **Unalaska** have changed considerably in **the** last two decades. Traditionally the **Aleuts relied** on marine resources in particular, and also hunted and trapped. Today subsistence activities continue, though in altered form. No one any longer prepares sea **lion** stomachs for storage or manufactures **articles** out of seal gut. However, many kinds of subsistence resources are **still** harvested. Sea eggs (urchins) and **bidarkis (chitons)** are **still** eaten; crabs are gathered when convenient; salmon and halibut are very popular; many kinds of berries and edible wild vegetation are utilized.

One problem in the area of subsistence is an increase in illegal

subsistence activities in the past several years. This could be a result of the recent reduction in the number of subsistence fish allowed by the state on a permit. In 1982 this was reduced from 250 fish per permit to 75 fish, although additional permits are available for permanent residents who are in need. This itself is a sign of the increased pressure on subsistence resources, which many **Aleuts** see as resulting from the growth in the population of outsiders. This is a serious problem which will remain for some time.

#### Non-Labor Force

Unemployment is not a serious problem in **Unalaska**. The isolated location of the community and dependence of the economy on processing mean that few people come to town without having previously contracted for work. There are some **Aleuts** without work, but this appears as often to be a matter of choice as necessity.

#### Oil-Related Development

Oil-related development has already begun to affect **Unalaska**, and as we noted several companies have offices and representatives in town. Oil related development is seen as increasingly desirable as the crab industry continues its decline. However, oil **is** also recognized as a nonrenewable resource and is not seen as the long term solution to **Unalaska's** economic problems. Groundfish, on the other hand, is seen as such a possibility. The currently dominant view among the administration of **Unalaska** and the major commercial concerns in the community appears to be that oil development can serve as a bridge between the declining crab fishery and the future groundfishery. Indeed, this is the very scenario we consider as Alternative Scenario 3 below.

#### Social Organization

The community of **Unalaska** is comprised of several different social groups distinguished on the basis of ethnicity, occupation, length of residence, socioeconomic status and religion. The two most salient distinctions, however, appear to be those between resident and transient and between **Aleut** and **non-Aleut**. The first distinction has become especially important in the last ten years with the rapid growth of the crab fishery **and** the influx of new semi-permanent residents and transient processor workers.

There are two categories of transients in **Unalaska**, short-term and **long-term**. Almost all of the short-term transients are processor line workers hired on six month contracts. Most of these individuals are Filipino, Vietnamese or Mexican. Their goal, for the most part, is to take advantage of the opportunities offered by the six month employment contract and then leave to work elsewhere for the remainder of the year. Few become actively involved with the community as most transients live, work, and interact socially with each other at the processors. **Long-term** transients reside in the community for longer periods of time, approximately two to five years. They include processor supervisory personnel and some city professionals. In other Alaskan communities, this group would be considered residents, but in **Unalaska** they are distinguished from other residents by their perception of residence in

**Unalaska** as comparable to a military "tour of duty" for those finding the experience unpleasant or an "adventure" for those whose experience has been an enjoyable one. These individuals have some stake in the community and often participate in community affairs. Their perceptions of the city are influenced, however, by the knowledge that **Unalaska** is not their permanent residence. Their primary goal is to save enough money or acquire enough experience to improve their economic position in another part of the state or country. Most of these individuals are Euro-Americans.

There are likewise two categories of residents in **Unalaska**, semi-permanent and permanent. Semi-permanent residents are identified as those having resided in the community since the development of the crab industry, yet consider **Unalaska** as their home. Some of these individuals may have been in **Unalaska** for as long as most long-term transients but are distinguished from this group by their perceptions of their role in, and their commitment to, the community. Only a small minority of these individuals plan to retire in **Unalaska**, however. Their decision to move to **Unalaska** was informed by local economic conditions at the height of the boom in the crab fishery; hence, their value orientations and expectations often differ significantly from those who resided in **Unalaska** prior to this period. Like the long-term transients, the ethnic composition of this category is predominately Euro-American, though perhaps more so than with the former group. There are a few **Aleut** individuals and families who also moved to **Unalaska** during this period but the large majority of these individuals or their parents have ties to the community that pre-date the crab fishery and have lived in the community previously. There is also a distinction among the semi-permanent residents between the "pioneers" and "newcomers." While both groups share similar social characteristics, they are distinguished by their time of arrival into the community with those arriving prior to 1978 (the height of the crab boom) being referred to as pioneers and those arriving afterwards being referred to as newcomers. Permanent residents have lived in **Unalaska** on a permanent basis since before the development of the crab fishery. They are a minority in the community and most of the members of this group are **Aleuts**. They are tied to the community by bonds of kinship and economic activity. In both cases, this activity transcends the fluctuations in the local economy, although both are affected by these fluctuations to various degrees. As noted above, each of these social groups possesses different sets of values and goals.

The second major distinction found in the sociocultural organization of **Unalaska** exists between **Aleut** and non-**Aleut** community members. Since the period of Russian contact, ethnicity has been a major social issue in the community. Until recently, **Aleuts** comprised the majority of the local population, although **Unalaska** has long been dominated by non-**Aleut** traders and administrators. A tradition of racial discrimination and forced evacuation of **Aleuts** from the area during World War II created the potential for hostile relations between **Aleuts** and non-**Aleuts**. Additionally, ethnicity has become a major issue within the last ten years, largely due to the enactment of the **Alaska Native Claims Settlement Act** in 1971 and the rapid increase of the non-**Aleut** population during the boom in the crab fishery. As a result of these developments there is some voluntary segregation, even among younger-age

school children. Non-Aleuts express resentment at control of local land by the Native corporation, claiming that the corporation has acted as a barrier to growth and development. **Aleuts**, on the other hand, express resentment at the perceived continuation of **non-Aleut** domination of community affairs. Many older residents prefer to associate only with members of their own ethnic group. Nevertheless, **interethnic** relationships are common and occur in the form of friendships, marriages, and workplace relationships.

In addition to the two major dimensions of residence and **ethnicity**, several other **sociocultural** factors divide the community into segments of association and interaction. These factors include kinship, neighborhood, voluntary associations, workplace relations and recreational activities. Kinship ties are particularly important among the **Aleut** residents of the community. Although fictive kin ties are not as strong among Aleuts as they have been in the past, four particular relationships are still important in terms of their influence on social relationships. They are the atcha, kroosna, chusa, and ungtasse relations. Atcha is a reciprocal relationship between individuals of any age whose primary obligation to one another is to protect each other's interests and reputation. Kroosna is a godparent relationship associated with the Russian Orthodox Church in which individuals are charged with the responsibility for the upbringing and welfare of their godchildren. Chusa is a special relationship between unrelated individuals with the same surname and ungtasse are business associates or partners. There are fewer kin ties among **non-Aleut** residents than among the **Aleuts**; nevertheless, there are a small but significant number of **consanguineal** relations among permanent, semi-permanent, and even long-term transient members of the community.

Until recently there was only one real neighborhood in Unalaska, but in recent years there has been a rapid growth in new housing away from the city center which has resulted in several new neighborhoods. Thus, neighborhood is becoming an increasingly important aspect of social relations. The **Aleut** population resides primarily in the downtown area of **Unalaska** and in the HUD housing constructed just on the edge of downtown. Nirvana **Hill** forms another neighborhood of sorts, begun when several friends purchased property for use as a residence while fishing. They have since sold portions of the property to friends, and friendship is the basis of residence on the hill. A new housing development in **Unalaska** Valley, at the opposite end from the original town, is a neighborhood of primarily professionals - the area is sometimes sarcastically referred to as "snob hill". Ski Bowl is another area, composed of cabanas on the side of a hill, although the individuals living there work in a variety of contexts and social interaction appears to be modest at best. On Amaknak Island, outside of the processors, are two clusters of housing that can be considered neighborhoods: Standard Oil Hill and Strawberry Hill. The former is inhabited by a broad spectrum of people with respect to occupation and social networks. Strawberry Hill is often referred to as the only true neighborhood outside of downtown **Unalaska**. Some of the residents have lived there for a number of years and a core group appears to have developed a fairly intensive social network.

Neighborhoods have only recently become important aspects of social

networks, and even yet they are by no means determinant. As noted, most neighborhoods do not yet have a major influence on social networks. However, we **expect** neighborhood to become increasingly important in this respect as time passes.

Voluntary organizations are also important foci of **social** interaction in the community. The **Unalaska** Volunteer Fire Department and the Volunteer Emergency Medical Service are examples. Recreational organizations, in particular the softball league, are **also** important foci of **social** interaction. The only formal service clubs in the community are the Lions Club and an all women's Chamber of Commerce. Finally, church organizations are an important source of social interaction. The Russian Orthodox Church forms one center of **Aleut** interaction, while the **Unalaska** Christian Fellowship is a very active center of interaction for a **primarily** Caucasian membership.

Crew relations are the basis of some social relationships, but the vast majority of the vessels in **Unalaska** are from outside the community and get their crew members from Seattle or other parts of Alaska. Other workplace relations are variably important. Workplace relations are most important among the long term transients since they generally have a defined goal for which they are working and therefore put an unusual amount of effort and time into work-related activities.

#### Political Structure

Political affairs in **Unalaska** are dominated by the city government and the **Ounalashka** Corporation. The current political structure of the community is a product of historical circumstances as **well** as current **sociocultural** conditions. Since the eighteenth century, **Unalaska** has served as a **non-Aleut** administrative center for the region as **well** as the center of numerous **Aleut** villages on **Unalaska** Island with their own forms of government. The two forms of political structure existed side by side, although real power lay in the hands of the **non-Aleut** authorities. This state of affairs underwent a significant shift in 1971 with the enactment of the **Alaska** Native Claims Settlement Act and the eventual formation of the **Ounalashka** Corporation. **While** the corporation is not explicitly an institution charged with the government of **Aleuts** in **Unalaska**, in the process of managing land reconveyed to the **Aleut** population in the community and protecting the interests of its shareholders, the **Ounalashka** Corporation has been **called** upon to take an increasingly political role.

The two forms of political structure and their relationships with one another are also affected by current **sociocultural** features of the community. The influence of the **Ounalashka** Corporation, with respect to the issue of local developments at times appears to be out of proportion **to** the number of **Aleut** residents in the community. Although **Unalaska** has a larger **Aleut** population than any other community in the Aleutians region, this population is nevertheless in a minority. The influence of the **Ounalashka** Corporation in local **affairs**, therefore, is regarded as being inadequate in the eyes of some **Aleuts** and exaggerated in the eyes of some **non-Aleuts**. Although relations between the two political structures may be characterized as stable, some political friction has been evident.

**Sociocultural** factors also contribute to particular conflicts within each of these political structures as well. The city government has been subjected to competing demands and the emergence of different community factions over issues such as the sale of alcohol, allocation of funds for development projects, salaries of public officials, and authority of the Department of Public Safety. Political conflict in **Unalaska** is a reflection of the increasing social differentiation brought on by the recent immigration of **non-Aleuts** and the emergence of distinct social groups of permanent residents, semi-permanent residents, and transients. Similarly, conflicts between the **Aleut** profit and non-profit corporations in **Unalaska** are a reflection in the differences in values, attitudes toward development, and opinions on how to best meet the needs of the community held by various segments of the **Aleut** population.

The major focus of political activities in **Unalaska** is the direction of community development. This issue involves the bulk of government expenditures and planning and is the center of most of the conflict between and within existing political structures. Conflicts between the **Ounalashka** Corporation and the city government usually involve disagreements over development priorities, ordinances regulating constructing activity, and the costs and benefits of future development. Conflicts between the **Ounalashka** Corporation and the non-profit **Unalaska** Aleut Development Corporation concern different opinions on the most necessary and most effective solutions to the needs of Aleut residents.

Associated with the problems associated with community growth and development has been the issue of social control. The Department of Public Safety is viewed by many residents, especially semi-permanent residents and long-term transients, as necessary to combat an increasing rate of criminal activities in **Unalaska**, especially assaults, rapes, thefts, and burglaries. However, many residents also see the Department of Public Safety in negative terms. For many **Aleuts** and **Non-Aleut** permanent residents, the Department represents the emergence of a modern governmental agency and modern problems previously absent in this heretofore frontier environment. Associated with the size of the Department's operating budget has been a concern over the growing influence of modern institutions in community life. This is particularly evident in the displeasure of local residents over the growing number of traffic tickets, representing the influx of an urban lifestyle.

## Religion

Religion in **Unalaska** is an important component of the community's **sociocultural** system and is intimately connected with several features of other subsystems. Historically, **Unalaska** has been a regional center for the Russian Orthodox Church in Alaska. The local church is one of the oldest and most impressive in Alaska and was the seat of a Russian Orthodox bishop who administered church activities throughout the region. Among those local residents who belong to one of the five denominations represented in **Unalaska**, religion is an important locus of social identity and provides important networks of social interaction. Religion also plays a role in the provision of certain social services such as counseling and mutual aid and has increasingly come to play a

**prominant** role in the political arena as residents with similar religious beliefs work to influence the direction of community development and affect community policy on various issues.

There are two major religious institutions in **Unalaska**, the Russian Orthodox Church and the **Unalaska** Christian Fellowship. The Russian Orthodox Church is the major social institution of the **Aleut** residents in **Unalaska** and provides an important focus for ethnic identity and social interaction. Membership is currently between 175 and 200, although regular attendance of church services is much lower. Nevertheless, belief in the Russian Orthodox faith is quite strong as indicated by the presence of crosses and icons in the homes of **Aleut** residents in **Unalaska** and participation in church-sponsored activities, particularly on religious holidays, among **Aleuts** is widespread. Many of the value conflicts experienced by **Aleuts** in **Unalaska** can be related to the continuing influence of traditional religious beliefs.

The major non-Native religious institution in **Unalaska** is the **Unalaska** Christian Fellowship. A mission of the Assembly of God Church for several years, the **Unalaska** Christian Fellowship is now an independent, fundamentalist church with an active congregation of 75 to 80 members from three different segments of the **local** population: recent immigrants who have come to **Unalaska** to perform community service and missionary activity, a group of permanent non-Aleut residents, and processing workers and management personnel. Participation in church services and social events is quite high and the congregation can be viewed as a highly integrated social network, but which is inclusive--i.e., interested in attracting new members--unlike the congregation of the Russian Orthodox Church. **Social** events in particular draw individuals from different segments of the community and provide opportunities for the recruitment of new church members. The church also plays a major role in the community as a whole. It has begun to exercise considerable political **clout** in swaying the decision of the city council on various local issues such as the extension of hours for the sale of alcohol and is involved in dealing with many of the community-wide social problems such as alcohol abuse and domestic violence.

Other religious denominations represented in **Unalaska** are the Roman Catholic Church, the Church of the Latter Day Saints, and the **Baha'i** Faith. The Catholic mission in **Unalaska** is without a priest and its congregation participates in many of the social and religious activities of the **Unalaska** Christian Fellowship. The **Baha'i** and Mormon congregations are small and lack their own facilities for public worship.

In addition to those **Unalaska** residents who belong to one of these religious institutions, there are many local residents who can be identified as being non-religious or secular. For these individuals, religion plays little or no role in social organization, participation in religious activities is minimal or non-existent, and religious beliefs are replaced with a secular belief system. Among some of these individuals, adherence to a secular belief system has been intensified by opposition to the growing political and social influence of religious groups, notably the **Unalaska** Christian Fellowship, in the community. Among many non-religious individuals there is growing

resentment over what is perceived to be the "righteous attitudes" of Christian residents, fear of growing political power, and concern that the possible legislation of morality will diminish the frontier quality of community **life**.

## Education

Formal education has been available in **Unalaska** since the first school was established by Father Veniaminov in the early nineteenth century. Nevertheless, much of the existing educational system is relatively new, having come into existence with the economic boom of the 1970's. Education is available at the **pre-school**, primary, secondary, and adult levels. Educational opportunities exist for all segments of the community although some segments make greater use of these opportunities than other segments.

The major educational institution in **Unalaska** is the **Unalaska** School which provides primary and secondary education for students within the independent **Unalaska** School District. Both the elementary school and high school are located on the same 5.5 acre site on **Unalaska** Island. In the past, students from **Nikolski**, **Akutan** and the **Pribilof** Islands would occasionally attend school in **Unalaska** for varying lengths of time but this practice has diminished considerably as schools have been developed in these communities.

Enrollments at all grade levels increased significantly during the crab boom of the 1970s. In the past few years, however, they have begun to level off and are starting to decline as families with school-age children move out of the community in search of better economic opportunities. The **Unalaska** school is staffed by a superintendent and principal, eighteen certified teachers, a part-time librarian, two half-time bilingual education teachers, and nine other personnel. The rate of teacher return in **Unalaska** appears to be higher than other rural communities of comparable to smaller size. As enrollments decline, however, the staff can also be expected to decline slightly over the next few years.

In addition to regular educational programs, the **Unalaska** School operates a general education program (**G.E.D.**), a fish hatchery program for high school students, an **Aleut** language and culture program, and the "Cuttlefish"\* program which publishes historical accounts of the region each year.

The **Unalaska** school program is comparable to that of other communities in the state in that the chief objective is to provide a quality, general education for all students. Students have performed well on statewide achievement tests and several recent students have gone on to attend college or university, although some return to **Unalaska** after only one or two years.

One of the most significant aspects of the educational system in **Unalaska** is the opportunity for extracurricular activities. Basketball and the student "Cuttlefish" program are very popular, and local parents have expressed a desire to expand the range of extracurricular activities available through the school.

Among the problems associated with educational opportunities in **Unalaska** are a lack of motivation of some students, inadequate preparation for college or university, and lack of specialized programs. Concern is often expressed regarding the lack of motivation of some **Aleut** students and the reluctance of many **Aleut** families to have their children leave the community to attend college or university. **Aleut** parents have been accused of failing to provide sufficient encouragement to their children to perform well in school although this appears to be limited to **only** a few families and **is** understandable in light of the parents' own educational experiences. **Of** those **Aleut** and **non-Aleut** students who do leave the community to attend college or university, many are unprepared for the isolation from friends and family and the demands of living in a new environment. Moreover, the small size of the school and limited budget precludes the offering of specialized programs for individual needs. Other educational needs identified for local residents include more vocational counseling and training and leadership development.

Educational services for **adults** are provided through the **Unalaska** Rural Education Center of the University of Alaska and the **Adult** Basic Education Program funded by the State of Alaska and **Aleutian/Pribilof** Islands Association. The former program offers extension courses for credit in a wide range of subjects including art, literature, typing and **vocational** skills, and emergency medical services. The majority of **adults** participating in this program are **Non-Aleuts**. The **Adult** Basic Education Program offers GED and other courses for local residents. English language classes are also offered for processing workers. Of those participating in the **program**, about **half** are estimated to be local **Aleut** residents.

#### Health Care

Health care is an important aspect of life in **Unalaska** for two reasons. First, the community has historically been subjected to numerous disease epidemics since the time of Russian contact, Second, the range of services currently available in **Unalaska** **is** quite limited and residents usually must travel to Anchorage or other communities for medical treatment or long-term care.

The health risks of **Unalaska** residents are reflected in higher than average death rates and high incidence and prevalence rates for particular illnesses. Death rates are higher in the Aleutian Islands than they are statewide or nationwide. Accidents constitute the highest single cause of death in the Aleutians followed by heart disease and cancer. In the period from 1970 to 1979, the accident death rate in the region was 102.8 per 1,000 population compared with a nationwide rate of 47.9. Drownings account for the largest percentage of accidental deaths and many of these are alcohol-related. Accidental injuries in processing facilities are **also** common. Other health problems in **Unalaska** include infectious diseases, poor dental health, gastrointestinal and skin diseases, and mental illness. **Aleuts** appear to have slightly higher morbidity rates relative to **Unalaska's** non-Native population, although exact figures for particular diseases are unavailable. Processing workers appear to be at high risk for numerous

stress-related disorders, venereal disease, tuberculosis, and **musculoskeletal** disorders.

Perhaps the most common health problem in **Unalaska** is alcoholism. It is related to other psychiatric disorders, particularly depression, and is a contributory factor to other diseases such as cirrhosis and infections, as well as accidents and homicides. Binge drinking is the most common form of alcohol abuse in **Unalaska** and it is often associated with violent behavior.

The major source of health care in **Unalaska** is the **Iliuliuk** Family and Health Services Clinic. The clinic is operated by **Iliuliuk** Family and Health Inc., a non-profit corporation administered by an eleven member board of directors. Funding is provided by numerous sources, including the Alaska Area Native Health Service, Aleutian/Pribilof Islands Association, city revenues, and visiting fishermen who use the facility. Its staff includes a full-time physician, a student physician's assistant, lab/x-ray technician, bookkeeper and several clerical **personnel**. The clinic is also visited by itinerant medical personnel, including dentists and ophthalmologists.

In addition to the clinic, health care in **Unalaska** is provided by local residents and members of the Department of Public Safety who have received training as emergency medical technicians. The Emergency Medical Services Team handles mostly trauma cases. A community health representative handles blood pressure checks and visits the elderly. **Unalaska** does not have a Community Health Aide which is often the sole provider of primary health care in other communities.

The major health care problems in **Unalaska** are perceived to be the lack of services and personnel available in the community and expense of care outside the community. Patients must be airlifted to Anchorage or Seattle at great cost and the range of services available locally is quite limited. However, it is unlikely that a hospital facility will be constructed in **Unalaska** in the near future given the diffused nature of public support for such a facility and the current instability of the local economy.

#### Social Services

Social Services in **Unalaska** are provided by several different individuals acting in both official and unofficial capacities. A social worker employed by the State Department of Health and Social Services, responsible for the entire Aleutian Islands chain and the **Pribilof** Islands, is based in **Unalaska** and provides a wide range of counseling and referral services. A clinical psychologist hired by the Aleutian/Pribilof Islands Association, has a similar responsibility but has dealt primarily with local residents since moving to **Unalaska**. The minister of the **Unalaska** Christian Fellowship also provides counseling and referral services but these are usually limited to church members. Other social service personnel in **Unalaska** provide assistance with legal and bureaucratic matters, assisting residents with welfare applications and income tax preparation, and providing limited legal counsel in civil and criminal matters. These services are usually provided by paraprofessionals or volunteers.

Domestic violence and alcohol abuse are the two major social problems in **Unalaska**. While they do **not** appear to be out of proportion in comparison with other communities in the Aleutians region or throughout the state, they are issues of concern among local residents and demand the large proportion of the efforts of local social service personnel.

Domestic violence, in the form of wife abuse, **child** abuse and neglect, and abandonment, can be attributed to numerous factors including the conflict between traditional and modern **value** systems, the increase in single-parent households, chronic unemployment, and alcohol abuse. Alcohol abuse affects all segments of the community and is usually implicated in local criminal activity, particularly assaults, rapes, burglaries, and vandalism. It is also often associated with other psychological difficulties, particularly depression and suicide. Drug abuse, usually marijuana or cocaine use, is also a problem in **Unalaska** and is usually associated with outside fishermen and transient workers. However, it **is** not considered to be as **serious** a problem as is alcohol abuse.

Domestic violence and alcohol abuse can both be related to high, and possibly increasing, **levels** of **social** and personal disintegration. The problem of social disintegration affects each segment of the community in different ways. Among transient processor employees, social disintegration is represented in the relative isolation from the rest of the community by virtue to length of stay in **Unalaska** and ethnic and cultural differences between residents and non-residents. Among permanent residents, the rapid influx of new residents and transients has led to a growing sense of isolation and a perceived decline in community cohesiveness. This cohesiveness is further weakened by the introduction of modern values, attitudes and behavior which has fostered the gradual transformation of the community into small discrete social units.

Personal disintegration is also a problem in **Unalaska**. For some of the **Aleut** residents this disintegration is associated with conflicting social **and** personal identities **and** a lack of self-esteem. Among new residents, personal disintegration may result from a lack of preparedness for the community. Among all residents, the potential for large-scale unemployment and economic decline associated with the downturn in the crab fishery may also lead to increasing personal disintegration in the near future.

#### Recreation

The range of recreational activities in **Unalaska** is comparable to other rural towns in Alaska. Outdoor activities, home entertainment, local bars and restaurants, visiting and vacations, and community activities are the chief forms of recreation enjoyed by local residents. The most common outdoor activities are subsistence-related and involve all segments of the community to varying degrees. These activities frequently involve the use of skiffs and small boats but pick-up trucks and motorcycles are also used to transport local residents around **Unalaska** and **Amaknak** Islands. Occasionally, private aircraft are used to travel to other parts of the region and the state for hunting and fishing trips but this is much less frequent than is **the** case in other

Alaskan communities of comparable size due to poor flying conditions. Camping and hiking are also popular forms of outdoor recreation. Televisions and home video systems are popular forms of home entertainment and almost all **Unalaska** residents have access to one or both. **Unalaska** residents have access to satellite television programs as well as programming from a local community station.

As is the case in other rural Alaskan communities, visiting and vacations are popular forms of recreation. The most frequent destination for **Unalaska** residents when traveling to visit friends and relatives or to take brief vacations is Anchorage. Travel to other communities in the Aleutians region is much less frequent, largely because of the range of activities offered in Anchorage's urban environment and the extent of social networks between Anchorage and **Unalaska**. Travel to Seattle is also common, giving **Unalaska** the reputation among local residents of being a "'suburb of Seattle." Given **Unalaska's** usually bleak weather, extended vacations to warm-weather locales such as Hawaii and California are the most popular forms of vacation travel outside of Alaska.

While these forms of recreation are enjoyed by residents of all Alaskan communities, **Unalaska** also has access to forms of entertainment unavailable in smaller communities. Chief among these are the bars and restaurants frequented by **Unalaska** residents, outside fishermen and processor transients. Bars are especially popular given **the** importance of alcohol as a medium for social activity among many residents and outsiders.

In addition to the bars and restaurants in **Unalaska**, local residents also have access to a wide range of community activities unavailable in many smaller towns and villages in **Unalaska**. These activities often take place in the churches, schools, and community center and each involves particular segments of the community. Hence, recreational activities such as pot-luck dinners, bingo games, picnics and sporting events sponsored by the various religious denominations in **Unalaska** usually are limited to members of that denomination, although in a few instances they provide opportunities for meeting new friends and recruiting new church members. School activities are largely focused on athletic activities or extension classes offered by the University of Alaska and the **Unalaska** Department of Parks, Culture and Recreation. The community center also provides numerous recreational opportunities in addition to extension classes. The center sponsors movies, bingo games, dances, and open recreational hours.

Although most of these community activities usually involve specific social groups, there are a few recreational events and activities in **Unalaska** which involve the entire community. City softball and basketball leagues are very popular and teams are fielded by all segments of the community. A few holiday special events, including the Fourth of July celebration and the King Crab Festival held on the Labor Day weekend draw large numbers of participants, although they are episodic in nature and do not provide a continuing basis for social interaction among all segments of the community.

## Forecast Scenarios

This section analyzes projected socioeconomic and **sociocultural** changes in the community of **Unalaska** based on the ethnographic baseline study and on a set of assumptions provided by the **MMS SESP**. Forecasts are constructed in one primary and three secondary scenarios.

The model utilized in the analysis of scenarios combines a systems **model** and an options model. The systems model is based on input, structure, output and feedback. The parameters of the systems analysis in this case are assumptions of varying levels of groundfish industry and OCS development activity along with the set of parameters contained in the ethnographic baseline. The options model provides the perspective of local residents as a supplement to the systems model. It considers how these changes **will** be perceived by residents and the kinds of decisions for action which **will** follow those perceptions.

The primary scenario considers levels of groundfish industry development at levels projected **by** the Alaska OCS Office, and serves as the baseline projection of change for **Unalaska**. The secondary scenarios examine the sequence and timing of events, **levels** and thresholds of development which appear most **likely** given our estimation of current trends and conditions. These scenarios consider the effects of a co-occurrence of groundfish industry and oil-related development, of variations in the timing of oil and groundfish-related development, and of the development of oil-related industry without groundfish development.

### Primary Scenario

The assumptions on which the primary scenario is based include population and employment growth, presented in the body of the report, based on projected groundfish harvest levels. However, we feel several caveats should be kept in **mind**. First, we do not **feel**, as implied by the figures, that the number of non-resident processing employees in the shellfish industry **will** remain constant given **the** current decline **of the** crab industry. Second, we anticipate growth of the groundfish industry will be somewhat slower than projected in the **1980s**, but **will** pick up considerable momentum in the 1990s. Third, it must be remembered that any projection of increased catch, processing and employment depends on many costs external to the industry such as **infrastructural** improvements in the community (docks, storage facilities, transportation, and so on) and these do not appear to have been given consideration in evaluations of the impact of the groundfish industry in **Unalaska**. Fourth, the current trend in groundfish development is toward joint ventures in which an American fisherman delivers product to a foreign floating processor. If this continues to be a dominant mode it will mean a reduced impact on the community as processing will be done elsewhere. Most important, the development of a groundfish industry depends on the perceptions of fishermen, particularly in **Unalaska**, that such a venture is worthwhile and a willingness to go to the expense of converting for harvesting the product. While a few have begun to do this, it is unclear how many will finally be convinced that it is worth the time, money and effort.

## Economic Subsystem

The most significant changes in the community of **Unalaska** under the projected levels of U.S. groundfish harvest in the Bering Sea/Aleutians Region will be in the area of the local economy. However, these effects will be generally postponed until the 1990s.

Several points should be kept in mind when considering these levels of groundfish development. First, some of this development may be diverted to **Akutan**, as speculated in the 1982 Army Corps of Engineers report of harbor and navigation improvements in coastal Alaska. Second, though employment may rise this needn't result in a major population increase. This is because even though groundfish is a year round product it is likely the processors will retain the current system of six month contracts for processing workers. Many of those who work in the processors are not available year round because of involvement in other seasonal work activities. It is also to the processors advantage in that **Unalaska** processing wages are lower than in the rest of the state and the maintenance of a seasonal labor force would make it easier to maintain those low levels.

Groundfish development will therefore not necessarily result in a large population increase. Indeed, during the first decade, to 1990 at least, the fledgling industry may well be pressed to fill the vacuum created by the declining crab industry. However, by the 1990s groundfish industry development will accelerate and, if combined with a resurgent crab industry, could result in major population and employment growth. The final result of this process will be a decline in the percentage of the work force consisting of non-residents and an increase in the resident labor force. By the year 2000 we expect non-residents to decline from the current 99% of the workforce to about 50% of the workforce.

The structure of the workforce will change as well, and the following statements are based on assumptions provided by the **MMS** SESP as well as on other studies documented in the main report. Total employment is estimated to grow from 1,600 in 1980 to 3,855 in 2000, or an average annual increase of 7 percent. The major growth will be in processing employment, although most other areas of the economy will also expand significantly.

The processing sector will expand, but not at a uniform pace. For the next few years the overall number of jobs in this sector will decline as a result of the continued decline of the crab industry and the closure of some of the smaller **Unalaska** processors such as Pacific Pearl, **Whitney-Fidalgo** and Sea Pro. However, in the 1990s the number of jobs should expand rapidly as crab recovers and groundfish begins to come fully on line. We expect employment in this sector to grow from 1,166 in 1980 (all in traditional processing) to 2,337 in 2000 (612 in traditional processing and 1,725 in groundfish processing). Transportation, communications and public utilities will also suffer in the short run from the decline in crab processing as well as from the withdrawal of Foss Shipping Lines from the area. However, the growing processing sector in the 1990s will result in a growth of this sector as well and we expect employment to grow from 57 in 1980 to 150 in 2000.

Construction is expected to remain constant for the next few years since any new processors moving into the community will probably utilize facilities abandoned by those most affected by the decline in the crab industry. However, with the decrease in available facilities in **the** late eighties construction activity should pick up rapidly and by 2000 we expect this sector to account for about 162 positions. Government, too, will follow **this** general pattern. As municipal revenues decline slowly over the next few years there **will** be less ability to hire municipal employees, particularly those hired from outside for a set contract period. However, with the increased revenues which should accrue from the development of the 1990s government employment should again begin to rise. Finally, one of the greatest increases will be in the support and service sector. Both retail sales and maintenance and repairs facilities, particularly for boats, will increase as the number of fishermen and processors increase. We expect services to grow from an estimated 44 in 1980 to 184 in 2000.

Incomes **will** generally rise throughout the projection period, though at different rates for different groups. The most rapid rise will be for those local residents involved in support businesses and industries such as transportation, wholesale sales and ship repair. Next will be those directly involved in the seafood industry, followed by small businessmen and individuals providing particular services. The lowest rate of increase will be experienced by those not involved in the fishing industry directly such as those on **public** assistance, non-employed or marginally employed, and so on.

These income levels will affect consumer behavior over the projection period. During the first few years consumer purchase of luxury items and new items **will** decline and a market **will** develop for used items, particularly automobiles, during this period. Spending on vacations will also decline. One result of this **will** be a tendency toward the "homogenization" of consumer behavior as fewer are able to afford new cars and lengthy vacations. However, once the economy begins to rebound in the 1990s we can expect distinctions to reemerge among the income groups outlined above. In the 1990s, then, differences in socioeconomic status will be increasingly magnified.

Housing and real estate will experience dramatic shifts over the projection period. During the first part of the period increasing vacancies will **be** evident and there will be a trend away from the dormitory or bunkhouse arrangements currently used by the processors as their employees are able to find alternative lodging. Over the long term, **however**, housing **will** once again become **in** short supply. This will be complicated by the general lack of suitable land in the city limits for residential development. This **will result** in an economic advantage for those who are already residents of the community, and particularly for the **Aleut** segment of the population, as their **total** assets increase with rising property and housing values. Land speculation can be expected to increase in the next ten years, fueling the increases in housing and property values. The **Ounalashka** Corporation, as holder of the majority of the land suitable for development in the community, stands to gain considerably, but the housing which becomes available will be generally beyond the means of any but major outside fishermen who decide to relocate permanently in the community to harvest groundfish.

## Changes in Economic Structure

The number of residents involved in the commercial processing sector is expected to increase, gradually at first, and more rapidly in the 1990s. The commercial fishing industry will continue to exploit the crab fishery, but will gradually shift toward the groundfish industry. However, this will not become widespread until the 1990s, and incomes will not be sufficient to allow conversion of vessels on a large scale until then. In the processing **sector** two complementary processes will occur with increasing speed over the period. First, existing processors will convert their lines to groundfish processing. Second, existing processors will be sold to new owners who will convert them to groundfish processing.

According to OCS assumptions, by the 1990s there should also be a change in the contract period used to hire processor workers, from a six month to a twelve month contract. At the same time, the wage scale will begin to increase, and these factors together may encourage more permanent residents in the community. We have already noted the caveats concerning these assumptions. Large scale enterprises should do well over the entire period, and such organizations as Carlfs Commercial and **Unisea** should weather the eighties well and expand considerably in the 1990s. The most difficulty will be felt among small businesses during the first half of the forecast period when economic growth is expected to be slowest or nonexistent. These small companies have few contracts with oil exploration or development companies now operating in the region, unlike the larger organizations, and will be less able to weather the short term decline in the processing sector. However, they should make a comeback in the 1990s.

A major business concern which will play a key role is the **Ounalashka** Corporation. The major task for the corporation is to insure sound operation and management so that it is able to resist any takeover efforts from larger corporations after 1991. The current investments of the corporation will grow moderately during the 1980s, with the exception of the housing holdings which will suffer from increased vacancy levels. Particularly crucial will be the prices the corporation attempts to charge for land during the housing crunch expected in the 1990s. If the corporation tries to charge exorbitant prices it will be less profitable and more open to takeover by outside corporations.

The banking sector is expected to remain as presently constituted through the remainder of this decade. However, the economic growth of the 1990s will call for an expansion of present service in **Unalaska** to include personal and business loans. In short, the **Unalaska** banking system will be impelled toward becoming full-service by economic expansion. The service sector will also grow rapidly, particularly in the area of trained professionals such as lawyers, accountants and health care providers. Finally, government will also grow during this period, slowly at first then more rapidly later. A growing disparity in incomes between local non-professionals and professionals hired outside the community will emerge. Nonetheless, over the next few years, in the face of **economic** decline or stagnation, **the** vacancy rate among qualified administrative personnel will increase slowly before it begins to level

off and finally, in the 1990s, decline.

Among external commercial agencies the two areas of greatest growth will be oil companies and outside construction companies. ARCO and Chevron both already have plans for expansion in **Unalaska** and will probably be joined by other major oil firms. Outside construction firms **will** be active particularly in the 1990s. **Of** other external agencies the **transportation** sector **will** perhaps decline slightly before rising again and **Air Pac** and Reeve will remain the **two** major carriers. Shipping and container companies **will** reorganize slightly with the discontinuation of operations by Foss Alaska Lines and the assumption of most of those activities by SeaLand. This sector will also expand during the 1990s.

Finally, the economy of **Unalaska** will continue to depend primarily on outside markets, both for the sale of the products processed in the community and for the purchase of consumer and commercial needs. However, in the 1990s in particular, the increasing presence of processors and oil-related firms will encourage the development of a local service and supply sector which will in turn encourage the development of a local market. Nonetheless the community **will** remain heavily dependent on outside markets and sources of supply.

The non-labor force **will** increase slightly during the last part of the **1980s**, but by the 1990s increased economic **activity** and employment opportunities will once again reduce this segment.

#### Subsistence

Subsistence will remain essentially unchanged with one exception. As increased population pressure in the 1990s results in potential depletion of subsistence resources, it is possible that more strict limits on subsistence will be enacted (in fact this has already occurred once with subsistence salmon permits). This will be felt most deeply by the **Aleut** population. The **Aleut** population may actually increase its subsistence activity during the eighties as the economy stagnates, but may be forced legally to curtail such activities in the 1990s. Subsistence activity among **non-Aleuts** is expected to remain fairly constant for the entire period, as this is primarily recreational in nature.

#### Population

With the assumptions provided by the **MMS** and bearing in mind the caveats noted above, population **in Unalaska** is projected to grow modestly during the next six to seven years, then more rapidly between 1990 and 2000. Population is projected to increase from 1,944 in 1981 to 2,257 in 1985, 2,446 in 1990, 3,136 in 1995 and to 5,918 **in** 2000. The population of **Unalaska** as a proportion of the Aleutian regional population is expected to increase from about **29.5%** to 37.6% during the projection period. The annual rate of growth during the period will be **10.2%**, most of which will occur in the 1990s when the annual rate will reach 14.2%.

We feel that the projections of the **MMS SCIMP** model misrepresent the likely relation between non-resident and resident **workforces**. We expect that the non-resident workforce will decline over the projection period as a **porportion** of total **workforce**. For several reasons, outlined at

length in the main report, we see non-resident workers declining from a current 45.8% of the workforce to 23.6% of the workforce in the year 2000. This will accelerate in the 1990s as the twelve month contract begins to supplant the six month contract, thereby encouraging permanent settlement in the community.

No major changes are forecast in the age and sex distribution of the population over the forecast period with one exception. It is possible that in the early 1990s there will be an increase in males aged 25-34, but by the latter part of that decade more balanced distributions will re-emerge as more residents with families replace non-residents in the seafood processing industry. Among the non-resident processor employees the trend toward older employees who are returnees and toward a larger proportion of males is expected to continue. Finally, the proportional contribution of various ethnic groups in **Unalaskan** population is expected to change somewhat during the forecast period. The most dramatic increase will be among the Filipinos, Mexicans, and Vietnamese residents and non-residents as the processors begin to utilize twelve month contracts in the 1990s thus encouraging these processing workers to remain in the community year round. Total population of this group will grow from 644 in 1985 to 2,243 in 2000, or from 28.5% to 37.9% of total population. The **Aleut** population is expected to increase at an annual rate of 5.4 percent, from 254 in 1985 to 519 in 2000, but will actually decline **slightly** as a proportion of total population from 11.2% in 1985 to 8.8% in 2000. The Caucasian group will grow from 1,314 in 1985 to 2,949 in 2000 but will **decline** from 58.3% to 49.8% of total population. Finally, there will be a modest growth in the proportion of Blacks in **Unalaska** from 45, or 2.0%, in 1985 to 207, or 3.5%, in 2000.

#### Community Facilities

The provision of adequate community facilities will be a major area of concern for the community if groundfish development occurs. The city has plans for several improvements in the infrastructure of the community but these will probably not be sufficient to meet the needs of a developing groundfish industry for several reasons. First, the city is in a period of declining revenues and will be until groundfish development begins to occur. Second, there are physical limitations to improvement of some aspects of the infrastructure, such as the airport which can be expanded only at great expense. Third, the planned improvements in water distribution, sewage and landfill will probably not be sufficient to meet the demand placed on them in the 1990s with groundfish development.

The first community utility scheduled for upgrading is the electrical system. A proposed system of expansion and power exchange between the city and processors should be in place by 1988. Planned sewage and water system improvements may be delayed by reduced city revenues but will probably be completed within four or five years. Improvements in local communications systems are not expected until the mid 1990s although there will be gradual expansion of the telephone system throughout the eighties. The airport is seen as a major stumbling block to development, and though funds have recently been approved in a bond measure by the citizens of **Unalaska** it is likely that improvements will be delayed by problems in obtaining funds from the state. Improvement

in docks and the harbor will continue throughout the **period**, as well as construction of one or more **cold** storage facilities.

Private investment is projected to be modest over the next decade as local companies or developers, including the **Ounalashka Corporation**, lack either market or capital necessary to make significant investments in housing or real estate. In the 1990s private development will increase, but **will** still be constrained by the general lack of suitable private land for development.

#### Regional Relationships

Regional economic relationships will be affected by groundfish development in three ways. First, there will be increased economic competition between **Unalaska** and other communities **in the** region, particularly **Akutan**. The plans of the St. Paul corporation, Tanadgusix, to develop facilities at **Chernofski Harbor** for **groundfish** processors would also compete with **Unalaska**. Second, if significant improvements are made in the airport **Unalaska** will increase its role as a regional transportation hub. The same result could occur if **Unalaska** develops a container and cold storage capability. Third, as other communities, **such as Akutan** and St. Paul, realize income from the taxes **on** fish landed and processed they will be able **to establish** community facilities of their own, rather than depend on **Unalaska**, as many have done **in the** past.

Political relations in the region will not change appreciably over the forecast period. However, as economic competition emerges it may prove to the advantage of the communities in the region to cooperate in the establishment of management policies for regional development. Social relations between **Unalaska** and other communities **in** the region are currently decreasing in intensity, but **groundfish** development may encourage the development of more ties, particularly with **Akutan** and **Chernofski**, if the latter is developed.

#### **Social** Subsystem

Social effects of **groundfish** development will also be major. Increases in population, employment and income **will** hasten existing trends towards fragmentation of traditional extended kinship networks and further weaken traditional patterns of social cohesion among the indigenous population based on kinship. Inter-familial patterns and **intra-community** ties are expected to weaken while **interregional** ties may be strengthened, as noted above. **Intra-community** ties **will** also weaken as **social** class differences become more pronounced.

Non-kin patterns will **also** change, primarily in terms of the formation of **social** class distinctions based on income. However, along with these social classes based on income will coexist networks based on ethnic group and residential status, **and** in many instances these networks **will** cross-cut one another. Ethnic ratios **will** remain steady through the rest of the eighties, but in the nineties the **Aleuts will** decline as a proportion of total population as an influx of Mexican, Vietnamese and Filipino processing workers move into **the** City. This will lead initially to an increase in ethnic conflict as the **Aleut** segment feels increasingly threatened with submergence, but in the long run may lead

to improved relations. This could result if the proportion of the population which is **Aleut** declines, since their economic position will be less of an issue in the eyes of the **non-Aleuts**.

#### Changes in Social Structure

The structure of **social** relations based on length of residence in **Unalaska** should remain constant throughout the forecast period, although there will be changes in the proportional contribution of each group in the nineties. In the last ten years of the forecast period the **long-term** residents (those in the community since 1970) will represent a decreasing proportion of total population. Transients will also decline, while long term transients and semi-permanent residents increase. Social distinctions among these groups will also blur, so that by 2000 the present four groups will have been reduced to two, resident and transient.

Ethnic group membership will continue to be important as a basis for social organization, but for different reasons than is currently the case. With the division of the **Aleut** community into well-to-do and lower class **Aleuts** ethnicity among the latter will be tied to subsistence activities and "reference group alienation" **vis-a-vis** the **non-Aleut** groups, while among the former, it will be tied to economic power and will be important psychologically in maintaining continuity with the past.

Overall the trend will be toward the replacement of social distinctions based on ethnicity and residence with socioeconomic status and neighborhood. The current trend in primary social networks is clearly in the direction of friendship and neighborhood ties. Neighborhood is already important in such areas as Haystack, Nirvana Hill, Skibowl and Strawberry Hill and will be reinforced by socioeconomic distinctions. Kinship ties will remain important but will not be dominant in social relations as in the past. Most of those coming into the community as a result of groundfish development will be relatively young marrieds or singles without extensive kinship networks.

Secondary social networks will increase in importance as kinship declines. Such organizations as church congregations and service clubs will become increasingly important. Recreational activities, such as basketball and community softball games, will also grow in importance. Finally, external social relations will remain strong with Seattle, and the projected increase in outside fishermen will insure that **Unalaska** will in many respects remain a "suburb of Seattle".

#### Value System

The continued, and in the nineties accelerated, exposure of **Unalaska** to the wider **sociocultural** system will have an effect on the value systems of the residents. Advances in telecommunications and transportation, and the continued influx of outsiders will mean a further decline in the "traditional" value system of the **Aleuts**, despite conscious attempts to stem this decline. By 2000 there will be almost no **Aleut** speakers in the community.

There will continue to be an opposition between **"frontier"** and "modern" ethics. This distinction may be blurred during the first half of the period as more permanent and long term residents dominate the population, but with the influx of newcomers and outsiders in the next decade the distinction will once again become more clear. Nonetheless, **over** the long run there will be a perceptible shift toward a "modern" value system at the expense of the frontier ethic as the community changes both economically and demographically.

The Russian Orthodox belief system will continue to be important among Aleuts, but among a decreasing proportion of the population. Religion will also remain important among the **non-Aleuts**, particularly the permanent and long term residents. However, with the influx of the nineties religious activity will both be diversified, as Mexicans, Vietnamese and Filipinos arrive in larger numbers, and weakened, as a great number of the newcomers will be more secular than the long term and permanent residents.

#### Political Subsystem

The major activity of the **Unalaska** city government during the projection period will be the administration of community development. The city will have to deal with the needs of **groundfish** industry processors through improvements in local utilities, housing and a favorable tax structure. The increased number of employees and residents will **result** in similar pressures, particularly in the areas of housing, utilities, health and **social** services, **police** and fire protection, education and recreation. The major difficulty is revenue generation as the **Ounalashka** Corporation owns much of the local land and is tax exempt **until 1991** at which time there are several strategies it can pursue to remain exempt. State and federal revenue sharing funds are also expected to decline over this period. This will **call** for "austerity budgets" for several years until the projected development of the nineties occurs.

Levels of political conflict will increase in the next ten years in three areas. First, there will be struggles for control of the city council in order to influence the direction of the **city's** role in economic development. Second, there will be conflict between the **Ounalashka** Corporation and the city government as a **result** of the city's desire to manage local development while the **Ounalashka** Corporation is in some ways actually in the better position to do so. Finally, there is likely to be some conflict between the profit and non-profit **Native** corporations (**Ounalashka** and the **Unalaska Aleut** Development Corporation) which currently disagree over the best way to serve the interests of the **Aleut** population. The UADC may acquire additional economic and political power after 1991 if the **Ounalashka** Corporation is forced into transferring some of its holdings and activities to the former as a means of protecting them from taxation or divestiture.

Problems of social control **will** increase during the projection period as well. The crime rate **will** rise as social differentiation becomes widespread and those at the bottom of the income scale are tempted to burglarize and rob. We expect the increase in crime over the first decade to be primarily in the area of misdemeanors, especially alcohol related offenses, traffic violations, and crimes against property. In

the nineties felonies will begin to increase as the population grows rapidly.

#### Changes in Political Structure

City government will experience a period of retrenchment during the first ten years of the projection period, but will once again expand in the nineties. Expansion will be most noticeable in the areas of public **works, planning and development**, and financial administration. Over the projection period, city government will gradually shift from the current pattern of long-term transients to mostly semi-permanent residents.

The **Ounalashka** Corporation may expand somewhat in the eighties in response to its growing management of commercial investments. One problem, however, will be attracting qualified **Aleuts** to leadership positions. In the 1990s some changes in organization will occur as the corporation's relationship to its stockholders changes when the latter have the right to sell shares in the corporation. These changes will probably entail a closer relationship with the **UADC** and a transfer of responsibilities and personnel between the two corporations.

Social control will become increasingly formal at the expense of traditional informal mechanisms such as gossip and censure. The demand for police protection may decline slightly over the short term, but will eventually rise strongly as newcomers flood the community in the nineties.

External political affairs will remain constant with the state and federal governments, although revenues realized from those sources will decline. Regional competition may emerge among **Akutan, Chernofski** and **Unalaska** and this may eventually **lead** to regional political cooperation as the communities recognize their common interests. The relations between the regional and local corporations will also gradually change as the local corporation is asked to assume increased responsibility for such things as management of joint financial ventures and provision of housing and social services for **Aleut** residents of the community.

#### Religion

Over the next seven to eight years religion will remain strong in **Unalaska**. The **Unalaska** Christian Fellowship and the Russian Orthodox Church will remain the dominant religious forces. It is possible that distinct congregations of **Baha'i** and Mormon faiths will disappear due to their small size.

Religious activity will remain strong over the next decade, but will be somewhat diminished in the 1990s. The movement of a large number of young and relatively areligious newcomers into the community will reduce the proportional importance of religion. Nonetheless, the Russian Orthodox Church will remain vital because of its importance to **Aleut** identity and tradition and the Christian Fellowship will continue to actively proselytize. It is possible, with growing socioeconomic distinctions, that the Fellowship may experience fission and that certain splinter groups may break away to form their own fellowships, but it is not expected that this would seriously weaken the original church.

With the growth in Mexican, Filipino and Vietnamese residents, it is likely that the Catholic Mission may become a full fledged church in the 1990s, and it is also likely that at least one other fundamentalist congregation will emerge (quite likely with a splinter group of the Christian Fellowship as its core). Overall religious affiliation will continue to be fairly closely tied to **ethnicity** with the **Aleuts** remaining Russian Orthodox, the Caucasians by and large members of the **Unalaska** Christian Fellowship, and the emerging Mexican, Filipino and Vietnamese groups primarily Catholic.

#### Education

Assuming that the ratio of school children to total population remains constant the **Unalaska** School population will increase by an average annual rate of 16.4% over the projection period. This would mean a growth in the school population from 198 in **1985** to 705 in 2000. This will not be a uniform increase over **time**, however, as the **school** population may actually decline over the next few years before it begins to rise rapidly **in** the late eighties and early nineties. Dropout rates may decline slightly over the next few years as **economic** opportunities contract and education is perceived as more important, but they **will** probably rise again to current levels as economic prosperity returns later. Vocational and **adult** education **will** remain constant for a time and then begin to increase as the demand for skilled local labor increases with projected construction associated with groundfish industry development. English language classes will **also** be necessary with the influx of several ethnic groups in the **1990s**.

Higher education should increase gradually throughout the forecast period. This **will** result from a combination of an increasing willingness of students' families to **allow** them to leave the community, the restricted economic opportunities in the community in the short run and professional opportunities in the long run, **and** the increased quality of education offered at the secondary level in the community. Recent achievement scores of **Unalaska** students show **that**, compared to the rest of the **state**, the quality of the educational system is improving rapidly. School construction **will** not occur over the next seven or eight years, but with increased revenues **and** increased student population in the 1990s it is likely new facilities will be constructed. The most likely scenario is the construction of two separate primary schools, one on Amaknak Island and one in **Unalaska**, and the utilization of the present school exclusively for secondary education. Extracurricular activities will remain important, both for recreational and social reasons.

In general the educational system will remain unchanged until the 1990s at which time increased enrollments will force the construction of new facilities, most likely primary schools as noted above. The number of teaching personnel will remain steady or decline slightly before rising in the 1990s. In the 1990s the **proportion** of students going on beyond secondary school is likely to decline as local economic opportunities multiply. This could result in an overall slight decline in achievement levels as the incentive to do well to get into college is weakened. Educational objectives will also change in the 1990s with an emphasis on

vocational as opposed to strictly academic subjects.

#### Health Care

Stress-related disorders are expected to increase steadily through the next few years, largely in response to the **levelling** off of economic opportunities in the face of rising expectations based on the past history of the crab fishery. **In** the 1990s the same phenomena will be on the increase, but as a result of the increased number of newcomers and the stresses associated with boom-town conditions.

The health delivery system is expected to remain constant throughout the first decade as funding levels for the **Iliuliuk Health Clinic** remain the same or decline only slightly. In the 1990s we expect the funding levels for health care to increase and this **will** be reflected in the training of more EMTs in the community. Attention will also be given to improvement of emergency transport to facilities outside the community.

Throughout the eighties there will be little change in the structure of health care in **Unalaska**. However, in the 1990s there will be pressure, and funds available, for expansion of the service and staff of the **Iliuliuk Health and Family Services Clinic**. This will probably take the form of one or two additional physicians, a dentist, and two or more nurses or physician's assistants. The clinic may be expanded with the possible addition of rooms for treatment and short term stay, an additional operating room, and a dental clinic. Toward the end of the projection period, the population of **Unalaska** will probably grow large enough to support a small hospital, but the construction of such a facility depends on demand and the availability of funds.

#### Social Services

As with health problems, the need for social services is expected to increase throughout the forecast period. Alcoholism, generational conflicts and family violence are expected to be the major issues. However, since most such programs are funded by outside sources, such as the **Aleut-Pribilof Islands Association** or the state, and since the state is expected to experience declining revenues, there will probably be little expansion of available services. Even with the recent addition of a clinical psychologist demand is likely to outstrip supply consistently during the projection period.

With an increase in demand and a constant supply, the quality of social services is likely to decline over the short term. However, the 1990s will see some changes in the provision of social services, perhaps through the addition of one or more trained social workers with specializations in individual and family therapy. Alcoholism is likely to be increasingly perceived as a major community problem and will probably result in the establishment of an alcohol rehabilitation program.

#### Recreation

Over the next ten years recreational patterns will be altered somewhat. With declining economic conditions subsistence will reassert itself as a major activity, and outside vacations and the purchase of modern techno-

logical devices will decline. However, this will once again be reversed in the 1990s. However, because these activities are tied to income **levels** these changes will not affect all segments of the population equally. In addition, subsistence activities among **Aleuts** of **all** classes are expected to remain fairly high as an expression of Native identity. Among the **non-Native** population, participation in subsistence will be more closely tied to income. Toward the end of the period the total demand on subsistence resources may force tighter forms of regulation and the imposition of further **limits** on utilization of subsistence resources.

Overall the projection period will see an increase in subsistence activities followed by a decrease **in** such activities and an increase in forms of recreation involving the cash economy. With increasing revenues in the 1990s it is also possible the city may sponsor more community recreational activities.

### Alternative Scenarios

We have presented the likely consequences of groundfish development **in Unalaska** in the absence of further **OCS-related** activity. Throughout we have noted the weaknesses of several assumptions and have suggested alternatives. We note the difficulty **in** accepting the assumed rate of replacement of the foreign fleet by domestic fishermen, the rate of displacement of foreign processors by domestic processors, the ratio of offshore processing vessels to onshore plants, the ratio of resident to non-resident employees in the processing sector, the role of the joint fishery in assuaging U.S. demands on the resource and in protecting the foreign market for **groundfish**, the economic wisdom of fishermen converting to groundfish harvesting and the issue of the development of a market which **will**, in the foreseeable future, be able to support a domestic **groundfish** harvesting fleet and processing sector. In this section we use these issues to construct alternative scenarios. We note only those features of the **social** organization of **Unalaska** which **will** show **major** variation from the primary scenario already discussed.

The first scenario presents the extreme case of both major **OCS-related** development and groundfish industry development occurring at the same time. The second two scenarios present more realistic assessments of the likely course of change by discussing the introduction of **groundfish** and **OCS** development at different points in the historical continuum.

### Alternative Scenario 1

This scenario assumes simultaneous development of both the **groundfish** industry and **OCS-related** development. The most severe forms of negative consequences occur under this scenario. Virtually **all** physical and support services are inadequate to meet the demands of this scenario.

Under the first alternative scenario population would increase rapidly from 1,944 in 1981 to 2,721 in 1990 and to 7,017 in 2000. To these population estimates, however, we should add the population ebbs and

flows in response to major yearly fluctuations in resource levels of crab, salmon, shrimp, halibut, herring and other unpredictable changes. If an abundance of resource in several of these areas co-occurs with OCS and groundfish development the population of the community could be pushed to between eight and ten thousand, exacerbating the problems associated with boom town conditions. Population would be concentrated in three distinct employment categories which would strongly condition residence. **Amaknak** Island would be the locus of groundfish activity and crab processing. Captains Bay and parts of **Amaknak's** inner harbor will be the locus of oil-related activity and Unalaska proper will be residential and **will** take the bulk of the permanent population associated with both groundfish and petroleum development.

The proportions of residents and non-residents making up the population would be similar to those under the primary scenario. However, the population **will** differ considerably from the primary scenario by **ethnicity**, employment, education and other social variables. From the perspective of ethnicity the major variation will be a disproportionate increase in the Caucasian segment as most oil-related workers will be from that group. Caucasians would **ultimately** represent over one half of the total population.

Public facilities and utilities will be severely strained within the first few years of development. The water system is inadequate for even current demand and the sewage system is barely adequate. Electrical power sources are adequate and can accommodate significantly higher demand, but the delivery system is inadequate for rapid expansion. Airport expansion will be seen as critical very early in the development process, and money should be available as a result of oil related incomes. However, there will be little lag time and upgrading of the airport is likely to occur after the initial phase of development and will therefore result in severe air transportation inadequacies during the first few years.

These major projects will have to be quickly inaugurated and will depend on state, federal, and municipal bond funding. Planning will be hampered by the necessarily rapid pace of expansion and result in unintended future consequences. Permanent housing will prove inadequate and a long period of dependence on bunkhouse-like and temporary shelter will result. Provision of adequate services to those units which are constructed will be subject to delays.

#### Economic Subsystem

Employment and unemployment will both increase markedly. The major period of employment expansion will be between 1990 and 1995 when job opportunities will increase by 57%. This will generate major changes in the secondary economy as retail, construction and other consumer activities increase accordingly. However, the rapid pace of these changes will result in shortages, underplanning and exaggerated expectations regarding profits and growth. It is important to note that overall the income levels of most current residents and the bulk of

those employed in processing will not increase appreciably in response to groundfish development.

Overall it is expected that groundfish activities will account for approximately three to four times as many workers as **OCS-related** development. **By** the year 2000 there will be approximately 1725 people involved in groundfish processing and 573 involved in **OCS** activity. There **will** be an additional 378 people involved in fishing for groundfish.

Subsistence activities, especially as they are tied **to** recreational objectives, will increase. Where the newer residents, through exploitation of traditional resources, tend to reduce access to **those** resources on the part of the long term residents conflict may emerge.

#### Social Subsystem

Social class distinctions **will** emerge in several different areas as a result of both groundfish and **OCS-related** development. Income distinctions will become increasingly important social group determinants. Managerial and upper **level** staff will tend **to** form one social group. Processor workers, generally young and **male**, will form another social group, or several based **on ethnicity**, which **will** remain by and large on **Amaknak** Island and interact **little** with **Unalaska**. **OCS** related personnel are likely to be **older**, family men, highly skilled and will, based on the experience of **Valdez**, interact even less with the rest of the community. Certain variations in these social groups will be introduced as a result of having children in the **Unalaska** School System, for **example**, or on the basis of religious affiliation.

#### Political Subsystem

The major difficulty in the political arena in the face of vastly accelerated development is the recent near-complete turnover in the city council and the managerial staff. At this time the city manager is leaving and being replaced by a new man. This comes at exactly the time when such development is projected to begin, and this development **will** therefore have **to** be managed by a cadre of administrators essentially unfamiliar with local conditions. This will call for rapid planning, and will inevitably suffer from the effects of too rapid, and too little informed, **decisionmaking**.

#### Religion

There will be **little** difference in religious development between this scenario and the primary scenario with the exception of a somewhat greater increase in the membership of the **Unalaska** Christian **Fellowship** due to the increased number of Caucasians in the population and possibly the establishments eventually, of one or two additional churches.

#### Education

Educational facilities will come under even greater pressure under this scenario than under the primary scenario and facilities will prove inadequate by the end of the first year. We expect **school** enrollment to

reach 842 by 2000, necessitating the construction of at least two primary schools and the conversion of the current facilities into a high school only. Petroleum related employees will also push for **post-**secondary education in the local high school and for higher educational standards in general.

#### Health Care

Both the cost and quality of health care will increase markedly under this scenario. Petroleum activities will generate additional tax revenues which will be used in part for the construction of a second clinic (at least partly funded by the oil companies) or, toward the end of the period, for the construction of a small, 20 to 40 bed, hospital to entirely replace the clinic.

#### Social Services

While economic prosperity might be expected to reduce social and psychological tension, the strain on the quality of life resulting from the demand of an increased population on limited utilities and housing and the increased socioeconomic and income disparities will actually mean an increase in the severity and number of problems. Alcoholism, accidental injury and death rates will all increase strongly. This will call for additional social service personnel, probably in conjunction with the clinic or hospital.

#### Recreation

The recreational trends noted in the primary scenario will hold in general for this scenario as well except that the presence of a larger population of outer-oriented Caucasians will mean a more rapid trend toward recreational activities of the dominant national value system. This means increased activities involving money (such as vacations, recreational vehicles, and dining out) **will** begin to occur.

### Alternative Scenario 2

The second alternative scenario assumes groundfish development during the eighties followed by **OCS-related** and continued groundfish development in the nineties. This differs from alternative scenario one in several ways. First, the pattern of growth in the groundfish industry, rather than growing gradually during the latter part of the eighties and reaching elevated levels in **the** nineties is assumed to grow rapidly during the late 1980s and be at elevated activity levels prior to **OCS-**related development. Second, the key difference between this and scenario one is that the community will have come to recognize the long term importance of groundfish development to **Unalaska** before the incremental additional effects of OCS activity become visible. To the degree that the importance of the groundfish activity to **Unalaska** is recognized the level of community resistance to OCS developments which appear to threaten this activity will increase; the perception of petroleum development will tend to be negative in the context of an existing steady growth or boom-like economy.

## Population

**Under** this **scenario**, population **growth** will **be** more gradual than under scenario 1 for the first ten years, but **will** become much more rapid toward the end of the projection period. Population should grow from 1,944 in 1981 to 3,547 in 1990, then mushroom to 8,799 in 2000. Of the **total** population growth between 1983 and 2000, about 17% will be accounted for by oil-related personnel. Under this scenario the structure of the population **would** also change from approximately half resident and half non-resident to three quarters residents and one quarter non-resident. This would represent, by 1995, an intolerable burden on housing, utilities and the like even if the community was able to expand these considerably. However, **the** advantage of this scenario is that the pace of development over the first decade will not be as rapid as under alternative scenario 1, so with judicious planning and foresight many of the problems of overburdened facilities and utilities may be avoided.

## Economic Subsystem

The major distinction between this scenario and alternative 1 has to do with timing. The **groundfish** processing sector will be entrenched by **the** time **large** scale petroleum development occurs. Thus petroleum **activities** will dramatically increase the employment opportunities in the early 1990s and **will** constitute a competing economic system with the groundfish processors. There will be a marked shift in employment patterns during this period as petroleum activities mount. The wage system which has evolved **in** the processing industry will be directly affected, as **will** the nature of the support and service sector. A **whole** new group of temporary **residents**, with different tastes and preferences, will create demands for new products and services. **Local** construction **will** be **extremely** active for several years. At the same time tax revenues will increase greatly and should **allow** for the construction and expansion of needed utilities and facilities.

## Social Subsystem

Socially a significant effect of the rapid growth of population under this scenario has **to** do with the likelihood that most of the groundfish workers will be year round residents. This means that they will not **leave** at the end of the "season" and that the population growth will be permanent and unremitting. This means **Unalaskans**, who traditionally look forward to **the** start of the fishing season as well as to the end of the season, when they can return to "normal", **will** be subject to a large population year round. They will gradually be forced into identifying their community as a "processing" **town** rather than **a village or even** fishing community. Groundfish demands a very different approach than other more traditional fisheries. With a significant decline in the **role** of "bonanza" fishing seasons (such as may occur with salmon or **crab**) and their replacement by predictable, constant, business-oriented processing activities much of the traditional positive **value** of identification with the fishing industry **will** have been **lost**.

Ethnic group size and composition will differ under this scenario from the primary scenario in that there will be a larger growth of the Caucasian group by the year 2000. However, this growth will occur later

than in alternative scenario 1, and this in itself may cause a higher level of conflict between residents and the newcomers involved in petroleum-related development. Not only will petroleum development per se be seen as threatening to an already established groundfish industry, the "**carriers**" of that development will be Caucasian and therefore easily identifiable, particularly by the **Aleut** segment of the population.

#### Political Subsystem

The major distinction between political activity in this scenario and such activity under the previous two scenarios concerns the fact that the political infrastructure will already have been established and expanded by the time OCS development begins to expand rapidly. This structure, and the priorities and community plans which it establishes, will have emerged in the context of rapid groundfish industry expansion. Groundfish development will be a major concern of the political apparatus and as a result OCS development is likely to be perceived in a negative fashion and as a potential threat to the economic base of the community, particularly as groundfish is a renewable resource while petroleum is not. The community will have established a satisfactory financial management plan and will not feel the need for additional petroleum related income at the expense of threatening the groundfish industry. Therefore petroleum companies will find that it is more difficult to obtain variances, tax incentives or other favorable political decisions than it would be if there were no successful alternative economic system already in place.

#### Education

Educational facilities will prove to be inadequate under this scenario by 1987, and a primary school will have to be constructed by that time. By 1990 a second primary school, probably on Amaknak, and the expansion of the current facility to accommodate additional secondary students will be necessary.

### Alternative Scenario 3

This scenario assumes the delayed development of the domestic groundfish processing sector in **Unalaska** and that oil development will proceed fairly rapidly so that, beginning around 1984-85 the pace of oil-related development in **Unalaska** will accelerate dramatically through the 1990s.

The major distinction in this scenario is that oil-related development precedes groundfish related development. It is our opinion, given current U.S. economic conditions, that this is the most likely of the scenarios discussed here. We assume that the crab fishery will dwindle at least for the next few years, then grow again at a rate below that of the last decade. It will thus lose its preeminent position in the **Unalaska** economy. We expect the collapse of several major crab processing operations and a declining city income base and increased pressure on the city to rely on municipal bonds for projects that might otherwise be funded on the basis of revenue sharing or other funds.

This, then, establishes the central distinction between this and the other scenarios presented here. In the context of a declining crab industry oil-related development will be welcomed, indeed courted. Particularly that segment dependent on city operations or funding will be eager for such development. The point at which such development occurs will be crucial. The further the current economic base of the community has declined when oil-related development is imminent the more it will be seen as necessary and positive to the community. Since we feel that current projections of groundfish industry development grossly exaggerate the pace and **levels** of development likely to **occur**, this appears to us to be the most likely course of future change in **Unalaska**.

#### Population

Population will grow rapidly during the remainder of the eighties, but this will be in response to oil-related development and not **groundfish** industry development. Overall population growth will be less under this scenario, with total population reaching **4,113** by 2000. It is also important that the population associated with oil-related development **will** have already stabilized and become involved with the community prior to the introduction of large numbers of groundfish related personnel. This will have important **social** and political consequences. With the delayed development of the groundfish industry the proportion of non-residents **in** the population will be somewhat higher by the year 2000 than under the other scenarios discussed.

#### Economic Subsystem

Under this scenario oil-related personnel will come into the community **at** a rapid **pace**. During the construction phase activity will be particularly intense. However, during both the construction and the operational phase the economic multiplier in the **local** economy will be considerably smaller than it is under current conditions. This is because relatively few of the local populace will be employed in either the construction or operational phases. **In** addition, those who work for the oil companies during the operational phase **will** be outsiders who will have a preference for imported goods and who respond to externally defined consumer patterns.

Since groundfish development will not occur until the oil-related **developments** are already firmly in **place** oil activities will already have become a constant source of income to the community through earnings of related employees and through direct taxes **to** the city. Conflicts between the two sources of **revenue**, employment and population **will** be minimal given the already **well** advanced nature of oil development. Ironically, this is the only scenario in which oil development will have a profound initial impact on the community and yet will ultimately integrate smoothly with groundfish development. Thus the two major anticipated economic and **social** forces of the next twenty years **will**, under this scenario only, be able to coexist comfortably.

Employment and population figures are both lower under this scenario than under the other alternative scenarios, primarily because of the late start up for groundfish related development. Ocs related development will not provide as much employment **eventually as**

groundfish, but under this scenario it is not until the late 1990s that OCS related employment is surpassed by groundfish employment.

#### Social Subsystem

Under this scenario the slower growth in population, and the fact that this growth is at first associated with OCS development, **will** mean a different pattern of social groups will emerge. The **Aleut** segment of the population will remain nearly a constant proportion of the population (about 12%) throughout the projection period. However, Caucasians will also remain fairly constantly about 60% of the population throughout the projection period. The major distinction, however, will be in the proportion of Mexicans, Filipinos, and Vietnamese, that is **groundfish-associated** workers. Instead of 35 to 40% of the total population, this group will only represent about 25% of the population in 2000.

Ethnic relations are likely to be somewhat more free of conflict and tension under this scenario as oil-related development will be generally welcomed rather than feared. There will also be less development of ethnic enclaves since the ethnic groups associated with groundfish processing will grow more **slowly** than under the other scenarios.

Under this scenario demand for educational facilities will grow at a more modest rate than projected under the other alternative scenarios. This will allow for more lead time in planning expansion and curriculum changes. We expect that total enrollment will reach 239 by 1990 and 458 by 2000. The addition of one elementary school will be called for by 1992 and a second one will be required by 1997. The fact that the oil industry will have been in the community for several years already when these expansion plans become necessary means that there should be adequate revenues to finance such construction.

In terms of community facilities there will be some problems under this scenario given the abrupt nature of the initial development. **Unalaska** will literally explode with oil-related development and the demand on the current infrastructure will rapidly rise beyond capacity. This will call for rapid planning and implementation and may result in errors of judgement or sequencing. Nonetheless, once this initial period is over the city should be able to cope with the necessary expansion and upgrading of facilities.

#### Political Subsystem

The political consequences of this scenario may be less than would appear likely. This is because the existing population clearly resists attempts of even the current commercial forces (such as the processing industry) to take an active political role. Given the fact that oil related development would occur first under this scenario, and the historical reluctance of oil related employees to become socially, much less politically, involved in communities, there will probably be little political activity on the part of the newcomers.

On the other hand, the response of the local political structure to the oil related personnel and development will depend to a large degree on

the then obtaining economic conditions in the community. If the crab industry has declined precipitously and the community **is** in dire economic straits then political concessions will be made to the oil companies **to** entice them to locate **in Unalaska**. We can expect variances, tax breaks, and the like to be liberally available to the oil companies under such a scenario. Finally, the entire process of oil related development has already begun on a **small scale** in **Unalaska** and such development is already perceived as at least one option for the future. To the extent that other options atrophy or remain unrealized **oil** development will be increasingly seen as positive and to be cultivated.