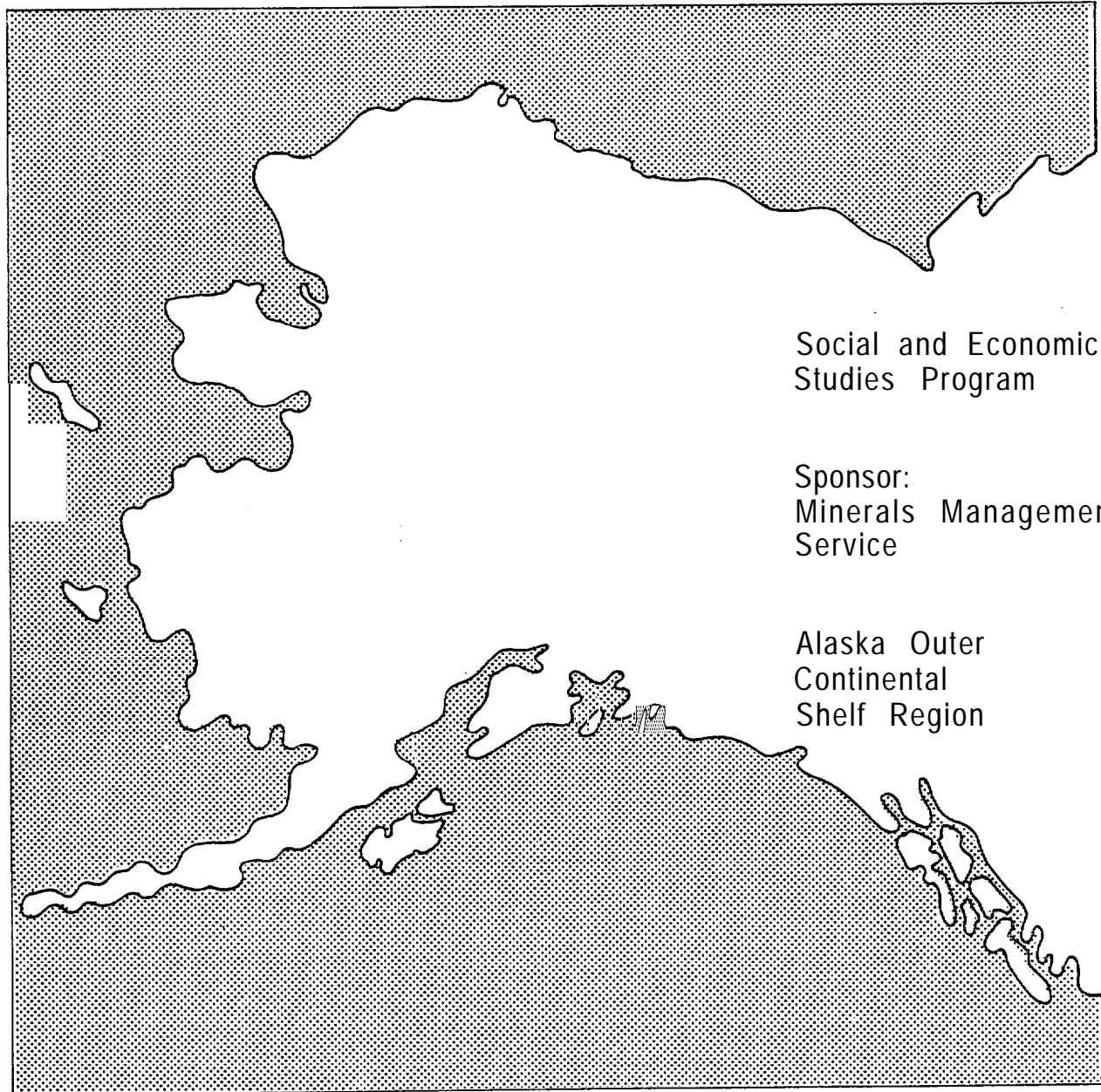


U.S. Department of the Interior

# Technical Report Number 118



Social and Economic  
Studies Program

Sponsor:  
Minerals Management  
Service

Alaska Outer  
Continental  
Shelf Region

**A Description of the Socioeconomic and Sociocultural  
Systems of the Aleutian-Pribilof Islands Region.**

## I. INTRODUCTION

### PURPOSE OF THE STUDY

This description of the **sociocultural** and socioeconomic systems of the Aleutian/Pribilof Islands region is designed to provide updated information on the structure and organization of **sociocultural** and socioeconomic systems operating in the St. George Basin region. The study, sponsored by the Minerals Management Service (MMS) under the Social and Economic Studies Program, presents a general discussion of regional economic elements of the Aleutian/Pribilof Islands area and a more comprehensive analysis of local socioeconomic and **sociocultural** systems in the communities of Akutan, St. Paul, and St. George. Changes and trends within the **sociocultural** and socioeconomic structures of these communities identified during fieldwork and a review of secondary data sources are presented in this report to assist in future analyses of the impacts of Outer Continental Shelf (OCS) oil and gas activities in the St. George Basin (Sale 101).

The study was conducted by Stephen R. Braund and Associates (SRB&A) in conjunction with four subcontractors. The subcontractors and their primary research focuses were: **Resourc Econ** (commercial fishing and processing), Patrick Burden and Associates (public and private sector economies), the Social Research Institute (**sociocultural** systems on the **Pribilof** Islands), and Kirkwood and Associates (land use, housing, community facilities, and background information for the **Pribilof** Islands).

Four primary study objectives defined the scope of this project:

- 1) identification of the socioeconomic and **sociocultural** systems sensitive to change resulting from outer continental shelf oil and gas exploration, development, and production activities;
- 2) descriptive overviews of the social, cultural, and economic systems active at the community level in Akutan, St. Paul, and St. George;
- 3) collection and analysis of current data on socioeconomic conditions existing at the regional level; and
- 4) description of the **sociocultural** context within which the local and regional socioeconomic systems operate.

As discussed above, a major focus of this report is to update existing socioeconomic and **sociocultural** data on the individual study communities and the economic data for the region as a whole. Following the methodological discussion in Chapter II, a profile of the regional economy is presented in Chapter III. Chapters IV, V, and VI present village level economic and **sociocultural** data for the communities of **Akutan**, St. Paul, and St. George, respectively.

### STUDY AREA

The Aleutian /Pribilof Islands region is comprised of a small number of relatively isolated communities scattered over a large area. In an effort to create an updated regional analysis of **sociocultural** and socioeconomic systems relevant to the St. George Basin, the **MMS** defined the study area as the **Pribilof Island** communities of St. **Paul** and St. George and the Aleutian Islands region west of **Unimak** Pass, with specific attention to the community of Akutan.

The physical characteristics of the study area have had a major influence on the economic and cultural systems that operate in the region. The Aleutian Islands, a chain of more than 100 major volcanic islands separating the North Pacific from the Bering Sea, extends westward from **Unimak** Pass for over 1000 miles. The tectonic activity that formed the Aleutian Islands continues to shape the chain, as evidenced by active volcanoes and frequent seismic activity in the region. The Aleutian Islands are the crest of a submerged mountain system that rises between the Aleutian Trench on the south and the Aleutian Basin to the north. The **Pribilof** Islands, located approximately 800 air miles southwest of Anchorage and 200 miles north of the Aleutian chain in the Bering Sea, are also of volcanic origin. The maritime climate is dominated by overcast skies and heavy precipitation. Thus, the Aleutian and **Pribilof** islands, rugged land formations surrounded by challenging waters, are only sparsely settled. The few communities on these islands are some of the most isolated in North America.

The marine environment is the focus of both economic and cultural activity in the region. AH of the communities in the study area are located along the

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## KEY TO ACRONYMS

AA	Alcoholics Anonymous
ADCRA	Alaska Department of Community and Regional Affairs
ADEC	Alaska Department of Environmental Conservation
<b>ADF&amp;G</b>	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
ADOL	Alaska Department of Labor
<b>ADOT/PF</b>	Alaska Department of Transportation and <b>Public</b> Facilities
<b>AFDC</b>	Aid to Families with Dependent Children
AHA	Aleutian Housing Authority
ANA	Administration for Native Americans
ANCSA	Alaska Native Claims Settlement Act
ANILCA	Alaska National Interest Lands Conservation Act
APA	Alaska Power Authority
<b>A/PIA</b>	<b>Aleutian/Pribilof</b> Islands Association
ATV	All-terrain vehicle
BIA	Bureau of Indian Affairs
CFEC	Commercial Fisheries Entry Commission
CHA	Community Health Aide
CHR	Community Health Representative
<b>COST</b>	Continental Offshore <b>Stratigraphic</b> Test
CRSA	Coastal Resource Service Area
<b>CZM</b>	Coastal Zone Management
EMS	Emergency Medical Service
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FTE	Full-time equivalent
FY	<b>Fiscal</b> year
HUD	Housing and Urban Development
ICC	Indian <b>Claims</b> Commission
IHS	Indian Health Service
IPHC	International Pacific Halibut Commission
IRA	Indian Reorganization Act
JOM	Johnson <b>O'Malley</b> Program
MMs	Minerals Management Service
<b>MFCMA</b>	<b>Magnuson</b> Fisheries Conservation Management Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
<b>NPFMC</b>	North Pacific Fisheries Management Council
Ocs	Outer Continental Shelf
OEDP	Overall Economic Development <b>Plan</b>
OMB	Office of Management and Budget
OSI	Offshore Systems, Inc.
PHS	Public Health Service
PISD	<b>Pribilof</b> Islands School District
P o s s	<b>Pribilof</b> Offshore Support Services
REAA	Regional Education Attendance Area
SGI	St. George International
<b>SRB&amp;A</b>	Stephen R. Braund & Associates
TDX	<b>Tanadgusix</b> Corporation
USFWS	United States Fish and Wildlife Service
Uss	United States Survey
UTA	United Tribes of Alaska
VHF	Very High Frequency
VPSO	Village Public Safety Officer

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## ABSTRACT

The goal of this research was to update information on current conditions and trends of change in the socioeconomic and **sociocultural** systems of the Aleutian /**Pribilof** Islands region. The objectives of the study were: 1) identification of the socioeconomic and **sociocultural** systems sensitive to changes from outer continental shelf (OCS) petroleum exploration and production activities; 2) descriptive overviews of the social, cultural, and economic systems active at the community level in **Akutan**, St. Paul, and St. George; 3) collection and analysis of current data on socioeconomic conditions at the regional level; and 4) description of the **sociocultural** context within which the regional socioeconomic system operates. Categories of data presented in the report include an economic profile of the region as well as community level economic, demographic, land status, facilities and services, social organization, domestic economic, and political systems data for **Akutan**, St. Paul, and St. George.

**REGIONAL ECONOMY:** The economy of the Aleutian/Pribilof Islands region is based on extraction of the region's abundant marine resources. Commercial fishing and processing dominate the economy and remain controlled primarily by outside fishermen. Consequently, the majority of wealth derived from area resources continues to leave the region.

In contrast, the formation of traditional councils, village corporations, and municipal governments in recent years has placed greater political and economic control in the hands of local residents. These institutions have broadened employment opportunities in construction (of capital projects and business ventures), administration and service delivery, and fishing (in St. Paul and St. George only, through guaranteed loans to fishermen for purchasing boats and gear). All three study communities view harbor development the as next step to building a local economy in which residents are competitive with non-local fishermen while maintaining their traditional ties to the resource base.

Most households rely on cash income to purchase subsistence equipment and to meet household needs. However, the instability of income sources and significant increases in household expenses have resulted in the continued



reliance on locally obtained fish and game. The cultural importance of subsistence activities has therefore remained high.

**AKUTAN:** Akutan is a Native community whose economic, social, and political systems have undergone extensive changes in the past 15 years. A preferred base of operations for floating king crab processors in the 1970s, Akutan was seasonally inundated by non-local processing personnel. This industry brought a valuable tax base to the newly incorporated city and was an important source of employment for Akutan residents. While Akutan enjoyed some economic benefits from this industry, the rapid and intense exposure to new lifestyles incurred social and political changes. The longstanding traditional council, led by a chief of many decades, lost much of its influence as the city government and village corporation, led by younger, more business-oriented individuals, became the dominant political structures. Closure of the king crab fishery resulted in a significant decline in the city's tax revenues and fishing-related employment for residents. Whereas residents relied on processing work in past decades, jobs created by the city and village corporation are now preferred, as are crew positions on crab and salmon boats. A few residents with skiffs harvest the majority of subsistence foods which are shared with the entire community. The town remains a highly informal, kin-oriented community.

**PRIBILOF ISLANDS:** St. Paul and St. George are isolated island communities that, until 1983, were largely controlled by the federal government in the course of operating the fur seal harvest. The government terminated commercial seal harvests and withdrew from the islands in 1983, leaving local organizations (cities, IRA councils, village corporations, and school district) to assume responsibility for local affairs and develop an independent economy. Using funds dedicated to this transition, both villages are currently developing commercial fishing, marine support services, tourism, and oil and gas industries; consequently, resident employment levels have been high. Both villages are developing harbors, local halibut fleets, and processing plants. A new oil and gas support base on St. Paul employs residents and has had minimal negative impact on the community. An alternative support base on St. George has had positive impacts in its first year. Though reduced to subsistence sealing only, the seal harvest on both islands retains characteristics of the commercial harvest and remains an important local tradition.

Final Technical Report

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A DESCRIPTION OF THE SOCIOECONOMIC AND **SOCIOCULTURAL** SYSTEMS  
OF THE ALEUTIAN-PRIBILOF ISLANDS REGION

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for

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## NOTICE

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coastal margin. Thus, the islands provide access to abundant commercial and subsistence resources in these waters. **Upwelling** nutrients resulting from the intermixing waters of the Pacific Ocean and the Bering Sea form the base for this wealth of biological activity. The majority of marine resources are found along the uplifted platform that slopes off both sides of the chain. A broad continental shelf underneath the Bering Sea lies to the east of the **Pribilof** Islands and is one of the most fertile marine ecosystems in the world.

Five species of salmon (chinook, sockeye, **coho**, pink, and chum) are found in the region's waters. Pink salmon are most abundant. **Bottomfish** is a resource which has only recently begun to be utilized by domestic fishermen and processing companies and is the focus of anticipated commercial expansion of the regional fishery. The drastic decline in king crab populations in recent years has removed an important source of income for many communities in the region, particularly Dutch Harbor/Unalaska and Akutan. In addition to the abundant finfish and shellfish populations of the region, large populations of marine mammals reside year-round in the ice-free waters, and large numbers of marine mammals pass through the area during animal migrations. The **Pribilof** Islands support 21 rookeries of fur seals, totaling approximately 1.2 million animals (U.S. Army Corps of Engineers 1982).

The rich marine and coastal environments of the region support large concentrations of bird life. The Aleutian Islands provide important habitat for migrating and nesting populations of waterfowl and other birds. The **Pribilof** Islands are perhaps the most important area for marine bird life in the northern hemisphere, supporting approximately three million nesting seabirds (U.S. Army Corps of Engineers 1982).

The terrestrial environment of the Aleutian /**Pribilof** Islands region is primarily used by human, bird, and marine mammal populations as a staging area for marine access. The interior of the islands are generally remote, mountainous areas that offer few commercial or subsistence resources. The vegetation of the region is dominated by moist tundra at lower elevations and alpine tundra in the uplands. Heavy precipitation, steep slopes, and frequent high winds produce extensive erosion in some areas, with severe storms affecting coastal habitat.

The regional economy's historic dependence on the resource base has shifted in recent years to include activities related to oil exploration and development. Seismic surveys have been conducted in the Bering Sea for over 20 years and exploratory drilling began in 1984. Support facilities in Dutch Harbor/Unalaska and Cold Bay have diversified the economic base of the region. In addition, in 1985 a helicopter support base was constructed at St. Paul Island and a helipad, weather station, and group quarters were constructed at St. George Island to support exploration of the Navarin Basin.

### COMMUNITY SELECTION

The criteria used in the selection of study communities were determined by the need to update information on important socioeconomic and **sociocultural** systems operating within the region. **Intra-regional** diversity indicated that field investigation in **all** of the communities **would** enhance the depth of the study. However, a detailed community profile for each of the settlements within the study area exceeded the scope of this project and was unnecessary due to an adequate secondary data base available for many of the communities. Instead, the MMS concluded that existing gaps in the secondary data record and potential impact by OCS development were the criteria on which community selection should be based. Possible study communities in the **Aleutian/Pribilof** Islands region include St. George and St. Paul in the **Pribilof** Islands, and Akutan (Akutan Island), **Unalaska/Dutch Harbor** (Unalaska Island), Atka (Atka Island), and Nikolski (Umnak Island) in the Aleutian Islands. Active military bases within the study area include Attu, Shemya, **Amchitka**, Umnak, and Adak islands. Based on the criteria listed above (i.e., potential to be impacted by OCS development and the adequacy of secondary data sources), the MMS concluded that Akutan, St. Paul, and St. George required field investigation.

The first community, Akutan, is located approximately 30 miles west of Unimak Pass, a major corridor for migrating sea life and **trans-Pacific** tankers. As a consequence of this proximity, Akutan has the potential to be impacted by OCS development. However, insufficient published data on most socioeconomic and **sociocultural** systems operating in the community of Akutan posed obvious problems for an impacts analysis. Thus, Akutan's proximity to potential OCS

activity combined with a dearth of information for evaluating possible impacts were the main reasons for **Akutan's** inclusion in this study.

St. George and St. Paul were chosen because of the rapid rate of change occurring in the communities and their current and potential future use for the development of both the St. George and Navarin basins. Although a vast secondary data base for these communities has been published in recent years, the islands are currently experiencing dramatic change as a consequence of efforts to discontinue their reliance on the federal government. Community level changes due to recent limitations on the harvest of fur seals have been compounded by federally funded efforts to diversify the local economy as well as the use of the islands for OCS related activities. Both islands' proximity to the St. George and Navarin basins and potential development as major commercial fisheries ports established St. George and St. Paul as key components of the socioeconomic and **sociocultural** update.



## II. METHODOLOGY

The methods, standards, and assumptions that guided this study were determined by both the specific project objectives listed previously in the Introduction and the study team's prior experience with the **Aleutian/Pribilof** Islands region. To update regional socioeconomic data, the study team created a methodological framework that emphasized the regional scope of the study while using the village specific experience and knowledge of individual study team members. The scientific approach included literature review and field investigations, and focused on the collection and analysis of economic data at the regional level as well as local level socioeconomic and sociocultural data from the communities of Akutan, St. Paul, and St. George.

Due to OCS leasing schedules and the timing of this contract, phases of this research effort (i.e., literature reviews, fieldwork, and data analysis) were conducted under severe time constraints. In order to successfully accomplish this update within these time constraints, it was necessary to hire four subcontractors in addition to **SRB&A** staff members. Different study team personnel were assigned discrete topics with separate research and writing tasks. Researchers' data and findings were continually shared and coordinated by **SRB&A** to ensure internal consistency among topics and effective integration of the report.

### LITERATURE REVIEW

A thorough review of published and unpublished materials pertaining to the study area provided a baseline for this report and revealed data gaps on which to base fieldwork efforts.

The study team referred to the Alaska Department of Fish and Game (**ADF&G**), the Alaska Department of Revenue, and the Commercial Fisheries Entry Commission (**CFEC**) for secondary data on commercial fishing and processing. Data sources for public and private sector economies included reports from the Alaska Department of Community and Regional Affairs (**ADCRA**), the Alaska Department of



Labor (ADOL), Smythe (1983), and the U.S. Department of Commerce, Bureau of Census. The Alaska Area Native Health Service, Alaska Health and Social Service Consultants, Inc., Orbach and Holmes (1982a&b), and Jones (1980, 1981) provided secondary information concerning **sociocultural** systems of the Pribilof Islands. Secondary data on land use, housing, and community facilities of the Pribilof Islands included reports from ADCRA, the Tanadgusix Corporation (TDX), the cities of St. Paul and St. George, and the St. Paul Indian Reorganization Act (IRA) Council.

In addition to these and other sources listed in the bibliography, the study team reviewed numerous MMS sponsored studies relevant to the project. The unpublished Kish Tu reports (St. George Basin **Sociocultural** Baseline and Addenda), submitted to the MMS in 1981, provided ethnographic information that expedited the selection of data categories requiring updating. Other MMS funded studies in and adjacent to the study area provided background data on the following categories:

- o subsistence and household economies (Wolf e et al. 1984);
- o transportation, infrastructure, and governance issues (Impact Assessment Inc. 1983a and b, Louis Berger and Associates, Inc. 1983a, 1984);
- o private commerce, notably commercial fisheries, and public sector economics (Earl R. Combs, Inc. 1981, Louis Berger and Associates, Inc. 1984);
- o socioeconomic and **sociocultural** patterns at both the community and regional levels (Alaska Consultants, Inc. 1981, Impact Assessment, Inc. 1983a and b, 1982); and
- o OCS effects at the regional level (Patrick Burden. & Associates 1985).

A major task of the literature review process involved the identification of outdated material. The study team's prior experience in the Aleutian/Pribilof Islands region enabled an efficient assessment of **sociocultural** change and resultant data gaps. This was particularly true concerning the Pribilof Islands, for which most published data were gathered for the period prior to the withdrawal of the National Marine Fisheries Service (NMFS) and the phaseout of the fur seal harvest. Members of the study team, working independently of this study, had assisted Pribilof officials in the accumulation of data on

sociocultural and economic impacts of the withdrawal of the federal project. Their research provided valuable unpublished data for this study and enhanced the quality of subsequent fieldwork.

In addition to published and unpublished literature, data were gathered from organizations and institutions active in the region. These included:

Regional Organizations and Institutions

Native Profit and Nonprofit Corporations

- o Aleut Corporation (Anchorage)
- o Aleutian /Pribilof Islands Association (Anchorage and field representatives)

Health Organizations

- o Public Health Service (Anchorage)
- o Alaska Area Native Health Service (Anchorage)
- o Alaska Native Health Board (Anchorage)

Educational Institutions

- o Aleutian Region School District, REAA (Anchorage)
- o Pribilof Islands School District, REAA (St. Paul and St. George)
- o Rural Education/University of Alaska (Anchorage)

Fishermen's Organizations

- o United Fishermen of Alaska (Juneau)
- o Bering Sea Fishermen's Association (Anchorage)
- o North Pacific Fishing Vessel Owners Association
- o Alaska Marketing Association
- o Deep Sea Fishermen's Union of the Pacific
- o Fishing Vessel Owners Association

Private Businesses

- o Fish processors
- o Shipping companies
- o Airlines
- o Retail businesses

Natural Resource Regulatory Organizations

- o North Pacific Fishery Management Council (Anchorage)
- o International Pacific Halibut Commission
- o Alaska Department of Fish and Game
- o U.S. Fish and Wildlife Service

State of Alaska

- o Public Safety (Juneau)
- o Health and Social Services (Anchorage and field representatives)
- o Regional magistrates
- o Department of Community and Regional Affairs (Anchorage)
- o Department of Environmental Conservation (Anchorage)
- o Department of Labor

- o Department of Revenue
- o Office of Management and Budget

U.S. Government

- o Department of the Interior, Bureau of Land Management (Anchorage)
- o U.S. Department of Commerce, National Marine Fisheries Service/National Oceanic Atmospheric Administration
- o St. Paul and St. George Trustees
- o Bureau of Indian Affairs
- o Treasury Department

**Other**

- o Alaska Native Review Commission (Anchorage)

**Community Based Organizations/Institutions**

Native Corporations

- o **Ounalashka Corporation (Unalaska)**, Tanadgusix Corporation (St. Paul), Tanaq Corporation (St. George), Akutan Corporation (**Akutan**)

City Governments

- o City of Akutan, City of **St. George**, City of **St. Paul**.

Local Fishermen's Organizations

- o St. Paul Fishermen's Association
- o St. George Fishermen's Association
- o **Atka** Fishermen's Association

**FIELD INVESTIGATION**

Based on the literature review, the study team developed standards, assumptions, and informal interview protocols to guide data collection in the field. Fieldwork involved an ethnographic approach that **relied** heavily on systematic informal interviews with key informants. Knowledgeable individuals in each of the study communities were selected based on their involvement in community affairs, referral by other community residents, and prior interaction with study team members. Participant observation and household interviews provided additional data, though these methods were limited by time and budgetary constraints. Inquiries tended to be village specific with regional analysis where possible. In general, **sociocultural** data were collected at the village level and socioeconomic data were collected at the regional and local levels.

The fieldwork plan incorporated project objectives that emphasized three major areas concerning **socioeconomic/sociocultural** conditions:

- o those likely to be affected by OCS activities but not treated adequately in prior research;
- o those likely to be affected by OCS activities but which have changed significantly since prior research was conducted; and
- o those likely to be affected by OCS development but which have commonly been assumed to be unaffected by such activities.

As stated in the Introduction, field data were collected in the communities of Akutan, St. Paul, and St. George. Lisa Moorehead of Stephen R. Braund and Associates (**SRB&A**) conducted fieldwork in Akutan for seven days in late July 1985. Ms. Moorehead's fieldwork methods consisted of the use of informal key informant interviews, participant observation, and detailed household case studies.

Charlotte Kirkwood of Kirkwood and Associates resided on St. Paul Island continuously from June 8 to August 10, 1985. During this period she committed approximately ten days to the project. However, the duration of her stay, combined with her extensive prior experience and contacts with the community, yielded considerably more data and time depth perspective than an isolated ten day visit would have produced. Throughout her stay, Ms. Kirkwood acted as a liaison between other study team members and relevant individuals and institutions of the **Pribilofs**.

Steve McNabb of the Social Research Institute collected data for three days in St. George and seven days in St. Paul in late July 1985. In St. George, Dr. McNabb used key informant discussions with institutional officials, a round table discussion with three recognized experts on **sociocultural** and subsistence topics, and family/household discussions. The same methodology was employed in St. Paul, with the exception of the roundtable technique, which proved infeasible due to conflicting time schedules.

Jim Richardson of ResourceEcon traveled to the Seattle area in early September, 1985 to collect data on the processing sector of the commercial fishing industry. Mr. Richardson gathered data from companies that have processing facilities in Dutch Harbor and Akutan and met with an official from the North

Pacific Fishing Vessel Owners Association. In addition, Mr. Richardson collected a substantial amount of data on the regional processing industry as a result of communication with the Alaska Department of Revenue.

### DATA PRESENTATION

Finally, this report discusses regional Aleutian economics (Chapter III) as well as detailed demographic, economic, land use, housing, community facilities, community services, social systems, household economic patterns, and political systems for the communities of Akutan, St. Paul, and St. George (Chapters IV, V, and VI).

Because this report is an update and is oriented toward local and regional sensitivities to OCS development, the primary focus of the community-specific chapters is to present economic data within a **sociocultural** context. The socioeconomic material can be interpreted in its own right; such analysis would provide a picture of economic and infrastructure trends in the community. However, the meaning of these trends for families, households, and local **sociocultural** organizations can be understood **only** when placed in a **sociocultural** framework. For instance, descriptions of demographic data, income and expenditure patterns, and services are complemented by **sociocultural** analysis of household structures and kinship relations. Local economic adaptations among families are discussed as well as local residents' attitudes towards changing conditions. In addition, a **sociocultural** treatment of values in each subsection characterizes the perspectives local inhabitants use to interpret socioeconomic changes and to motivate institutional responses. Finally, the **sociocultural** analysis provides information to help the reader distinguish between similar socioeconomic patterns in each community by illustrating their cultural meanings. The **sociocultural** data address the objectives of the study and do not attempt to present a complete ethnographic analysis of the study communities.

Due to the many levels of analysis required for this study, important components of a study community are dealt with repeatedly throughout a chapter. For example, the Akutan Corporation is discussed in Chapter IV within

the following sections: Employment; Income and Expenditures; Land Ownership; Land Use; Land Management; Future and Planned Development; Community Facilities; Patterns of Economic Opportunity; and Political Systems. While each of these discussions considers the Akutan Corporation in a slightly different descriptive and analytical context, a certain amount of repetition is inevitable. Other important aspects of a community will be treated similarly, i.e., in multiple sections because of that aspect's relevance to various analytical themes.

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## 111. REGIONAL OVERVIEW

### ECONOMIC OVERVIEW

This section of the report briefly describes the economic and demographic conditions of the Aleutian/Pribilof region, and provides the most current regional data available to the study team. The objective is to provide a context for the detailed community analyses that follow. Information on some economic activities, such as fish harvesting and processing and OCS exploration, are not readily available or extensive at the community level; therefore, additional information has been provided in the regional description. Conversely, where community specific data are quite extensive, the regional description is succinct.

Subsequent to a brief cultural introduction, the sections of this chapter provide an overview of the role that the government sector (federal, state, and local entities) fills in the regional economy. The private sector of the economy is discussed next in terms of the fishing industry, other private industry, and OCS activities. A discussion of **intra-** and inter-regional economic linkages for government, commercial fishing, and other industry is also provided. A summary of population characteristics and population growth completes the chapter.

#### Cultural Context of the Regional Economy

In order to provide a means for understanding and accurately interpreting the regional economic data, it is useful to first describe the cultural characteristics of the study area communities and residents. The next few pages provide a brief **sociocultural** overview of the western Aleutian/Pribilof Islands region.

Within the Aleutian Islands west of **Unimak** Pass are the communities of Akutan, Unalaska, Nikolski, and Atka; the **Pribilof** Island towns of St. Paul and St. George lie approximately 200 miles to the north. In addition to these study area communities, the MMS expressed interest in the role played by Cold Bay (just east of Unimak Pass) as the major transportation hub for the entire



Aleutian /Pribilof Islands region. Taken together, the region's communities represent a broad cultural spectrum that is difficult to generalize. For example, at one extreme is the community of **Unalaska/Dutch Harbor**, the major commercial fishing, processing, and freight port in the region. Its population of nearly 2,000 is almost twice that of **all** the other communities in the study area, which are mostly **small** towns ranging from 44 to almost 600 residents. Moreover, **Unalaska's** population is predominantly white while most of the towns in the study area (with the exception of Cold Bay) are predominantly **Aleut**.

At the other extreme are the towns of **Atka** and **Nikolski**, both of which are over 95 percent Native with populations of **less** than 100 residents. Neither of these towns attracts much economic activity; a sheep ranch near **Nikolski** provides some part-time seasonal employment, **while** a number of **Atka** residents find seasonal employment on commercial fishing boats. Both communities rely heavily upon the local infrastructure for employment and on subsistence for much of their diet. **Atka** is considered **one** of the more traditional **Aleut** villages. It is the **only** town in which an **Aleut** dialect is taught in the school system. One study predicted the **Atka** dialect will be one of the few Native Alaskan languages to survive to the year 2055 (Alaska Native News 1983). The isolated locations of **Atka** and **Nikolski** combined with limited economic opportunity have contributed to the characterization of these towns as small, traditionally **Aleut**, subsistence oriented, and economically marginal.

While also a **small**, subsistence oriented community, **Akutan** has been involved in the market economy for its entire history. It was founded in the late 1800s when a whaling merchant opened a trading post in **Akutan Harbor** and Natives from surrounding settlements moved to **Akutan**. The commercial harvest of marine resources has attracted outside interests, beginning with whaling and more recently, commercial fishing. Only 18 air miles from **Unalaska/Dutch Harbor**, the community has been considerably less isolated from other life-styles than have the more outlying villages of **Atka** and **Nikolski**. While **Akutan** enjoys the economic benefits of the commercial fish processing industry, the presence of hundreds of non-local fishermen and processors in the late 1970s caused some unrest in the community with regard to reconciling a traditional way of life with more modern influences.

The **Pribilof** Island communities St. George and St. Paul have a considerably different history. Until their discovery by Russian explorers seeking the migratory path of the northern fur seal, the **Pribilof** Islands were uninhabited by humans. The Russians relocated **Aleuts** from Atka and **Unalaska** to the **Pribilof** Islands to serve as laborers in the fur seal harvest. These **Aleuts** combined aspects of their culture with western ideologies to form their own unique way of life and cultural identity. Until a few years ago, life in the **Pribilof** Islands still revolved around the fur seal harvest. Predominantly **Aleut, Pribilof** Islands residents have supplemented wages and meat from the seal harvest with subsistence activities and a limited number of other jobs. Currently lacking the commercial seal harvest that provided the main economic activity for so many years, residents are attempting to develop a sustainable economy while preserving their way of life.

Cold Bay is culturally an anomalous community in the study area. Developed during World War II as a military base, communications, transportation, and government currently account for the majority of jobs in Cold Bay, resulting in a highly transient population that consists primarily of white males. Consequently, kinship systems are minimal in Cold Bay. Impact Assessment, Inc. (1983a) described Cold Bay as “individualistic” with residents having generally stronger linkages to areas outside the community than within the community. Participation in hunting and fishing is of a more recreational than subsistence nature. Cold Bay’s role as the major air transportation hub for the **Aleutian/Pribilof** Islands region, and the regional economic implications of that role, are the reasons for its inclusion in this chapter.

Historically, **Aleuts** have constituted a major portion of the population of the region and **Aleut** culture has been a fundamental traditional component of these communities. The **Aleut** lifestyle has evolved in the last two centuries under the influence of first Russian and then United States ownership and the concomitant influx of those governments’ representatives and citizenry. Contact with these non-Native cultures, whose presence in the region was stimulated by the commercial exploitation of natural resources, resulted in **Aleuts’** eventual participation in a cash economy, as well as acquisition of numerous other cultural and economic traits.

Although the **Aleut** culture has changed and modernized, and despite broad diversity within the region, the present-day communities of the western Aleutian /**Pribilof** Islands region possess certain fundamental **commonalities**. The foremost characteristic of the communities in this region is the marine orientation. The resource rich seas surrounding these relatively small islands have sustained residents for centuries, whether in a subsistence or a commercial capacity. Commercial fishing and the **Pribilof** Islands fur seal harvest have been the main commercial uses of the area, while the subsistence harvest of marine mammals, a variety of fish, and intertidal **biota** has supported the **local** communities to a great extent. Throughout the region, subsistence activities are highly valued by residents. In those communities that depend also on commercial harvests (e.g., of fish or fur seals), these commercial activities are also highly **valued by** residents and are often considered a preferred livelihood.

The harvest of natural resources for subsistence purposes is a fundamental characteristic of the study area's **Aleut** residents more so than of the non-Natives. Although mentioned above as part of the marine orientation, subsistence includes terrestrial and **avian** resources as **well**, and is significant in and of itself as a **cultural** characteristic of the region. Subsistence was the basis for human settlement in the Aleutians; it has persisted continuously into the present despite the external influences of the market economy. As **such**, it is one of the strongest and most traditional aspects of life in the **Aleutian/Pribilof** Islands region.

Another characteristic common to most of the study area communities is the importance of the family within the **Aleut** population. Kinship ties are regarded very **highly** in **Aleut** culture; in most communities, several extended families related to one another through marriage form the core of that community's **Aleut** population. The extensive network of kinship ties combined with the high cultural value ascribed to them result in **Aleut** communities that are closely knit and that conduct high **levels** of inter-household sharing and support.

Finally, the **Aleut** populations within the study area share in common the Russian Orthodox religion. Introduced by the Russians during their governance of the Aleutian/Pribilof Islands region, this religion was eventually accepted by the **Aleuts** and remains today the overwhelmingly dominant faith among **Aleuts**.

This discussion of the cultural environment of the region has been very general with the intent to provide a broader understanding of the regional economic dynamics that follow. Additional detail on the cultural topics mentioned generally in this section is presented in subsequent community-specific chapters.

### Government's Role in the Regional Economy

Federal, state, and local governments are significant economic forces in Alaska and particularly in rural parts of the state. This pattern is especially evident in the Aleutian /Pribilof Islands region where these entities provide approximately 37 percent of total employment and total wages (Table 3-1). The influence of the governmental sector is even more significant than indicated since many government jobs are permanent positions held by local residents, in contrast to manufacturing jobs such as fish processing which have a large percentage of nonresident workers in seasonal jobs.

The following sections briefly describe some of the major contributions from the government sector to the regional economy. Additional data are found in Employment and Income.

#### Federal

The federal government accounted for approximately 21 percent of total employment in the region in 1983 (Table 3-1). Most positions were held by civilian personnel employed at military facilities. Federal employment in the remainder of the region is relatively modest.

In addition to wages and salaries coming into the region from direct employment, the federal government provides transfer payments to communities and individuals. Examples include federal revenue sharing, social security

TABLE 3-1: 1983<sup>(1)</sup> REGIONAL EMPLOYMENT AND WAGES,  
ALEUTIAN ISLANDS CENSUS AREA

<u>Economic Sector</u>	<u>Average Annual Employment</u>	<u>Percent of Total Employment</u>	<u>Average Monthly Wage</u>	<u>Total Annual Payroll</u>
Construction	93	2.8	\$3,984	\$6,234,049
Manufacturing	1,269	38.4	<b>1,625</b>	25,555,541
Transportation	190	5.8	<b>1,612</b>	3,702,036
Wholesale Trade	NA	NA	NA	NA
Retail Trade	109	<b>3.3</b>	1,447	1,902,666
Financial, Ins. & Real Est.	72	2.2	<b>1,336</b>	1,577,914
Services	306	<b>9.3</b>	<b>1,015</b>	3,695,497
Federal Government	728	22.0	<b>1,418</b>	12,399,327
State Government	<b>72</b>	2.2	2,006	1,698,034
Local Government	<b>467</b>	<b>14.1</b>	<b>2,021</b>	<b>11,300,239</b>
<b>Total</b>	<b>3,306</b>	100.0	\$1,829	\$68,065,303

NA: Not available due to non-disclosure requirements.

1. The 1983 data were the most current, detailed, published data set for a complete calendar year at the time this report was written.

Source: Alaska Department of Labor (n.d.a), Statistical Quarterly 1983.

benefits, and Aid to Families with Dependent Children (AFDC). These funds are substantially more important to smaller communities than wages and salaries associated with low levels of federal employment (e.g., postmaster).

### State

The relatively low level of employment and wages generated by state government as shown in Table 3-1 (72 persons and \$1.7 million) belies the importance of this sector to the regional economy. The state has provided over \$100 million in capital grants to regional communities for fiscal year (FY) 1981 through FY 1985. Additional funds have come from state revenue sharing, educational support, Permanent Fund dividends, and other programs that provide revenues to individuals, communities, social service organizations, and village councils.

### Local

The local government sector is comprised of two major components: city or municipal governments and local schools. The local government sector employed 447 persons during 1983 on an annual average basis. Total payroll for the local government sector in 1983 was over \$11 million.

Approximately 200 of these persons were employed by local schools. Schools in the area of interest are administered by two Rural Education Attendance Areas (REAA's). The Pribilof Island REAA is headquartered in St. Paul and the Aleutian REAA has its offices in Anchorage.

City governments are important focal points for economic activity within the region. A significant amount of federal and state dollars flow through cities and the policies made by these organizations influence the pace and level of development in most communities.

### Industry and Business

#### The Fishing Industry

In the recent past, commercial fisheries in the Aleutian/Pribilof area have experienced extreme growth followed by a quick decline. Fluctuation within

the king crab fishery and, to a lesser extent, the Tanner crab fishery have been the major cause of this variation. The growth of the king crab fishery throughout the 1970s made Dutch Harbor an area of frenetic activity. In 1978, Dutch Harbor was the largest fishing port in the nation in terms of the value of fish landed, with a total value of \$99.7 million. As the king crab fishery declined, the relative ranking of Dutch Harbor also declined. Table 3-2 shows the position of Dutch Harbor in relation to other fishing ports in the nation.

The fishing industry in the Aleutian/Pribilof area is likely to continue to change. Expectations for the future of a particular fishery can shift rapidly due to environmental **and/or** regulatory changes. The potential for offshore oil development is yet another factor of change in the dynamic conditions that may affect commercial fisheries in the Aleutian/Pribilof region.

Participation in harvesting and processing activity within the study area has been dominated by fishermen and processing workers from other areas of Alaska and from outside the state, rather than by residents of the area. The level of local participation is addressed in the sections below for both the harvesting and processing sectors.

#### Income and Employment in Fish Harvesting

Throughout Alaska's fisheries, resident fishermen **account** for only part of the **total** commercial harvest. The remainder of the total harvest is taken by non-Alaskans. However, for residents of **small** communities such as **Akutan**, St. Paul, or St. George, the perception of nonresident fishermen would include all those who reside outside their communities, whether they are from Seattle or other Alaska communities such as Kodiak or **Kenai**.

Tables 3-3 and 3-4 show the Alaskan/non-Alaskan participation rates in Alaska's commercial fisheries and the incomes derived from that participation for the years 1977 through 1982. For all Alaska fisheries, the proportion of total earnings by **Alaska** residents varied between a low of 53.3 percent in 1980 to a high of 61.4 percent in 1977. The trend of increased earnings by **Alaska** resident fishermen over the 1977-82 period can be attributed to the decline of the king and Tanner crab fisheries in the study area, since those fisheries were dominated by nonresident fishermen

TABLE 3-2: THE RELATIVE RANKING OF DUTCH HARBOR COMPARED WITH OTHER FISHING PORTS IN THE NATION

<u>Year</u>	<u>Relative Position</u>	<u>Total Value of Production</u> <sup>1</sup>
1976	2 <sup>nd</sup>	\$48.3
1977	3 <sup>rd</sup>	\$61.4
1978	1 <sup>st</sup>	\$99.7
1979	1 <sup>st</sup>	\$92.7
1980	3 <sup>rd</sup>	\$91.3
1981	5 <sup>th</sup>	\$57.6
1982	7 <sup>th</sup>	\$47.8
1983	10 <sup>th</sup>	\$36.4
1984	22 <sup>nd</sup>	\$20.3

1. Ex-vessel value of processed fish in millions of dollars.

Source: National Marine Fisheries Service (n.d.), Fisheries of the United States.



TABLE 3-3: COMPARISON OF TOTAL GROSS EARNINGS AND GROSS EARNINGS OF ALASKA RESIDENTS IN THE FISHERIES OF ALASKA, 1977-1982

<u>Year</u>	<u>Total Gross Earnings</u> <sup>1</sup>	<u>Alaska Gross Earnings</u> <sup>1</sup>	<u>Alaska Percent of the Total</u>
1977	351,438,500	215,902,200	61.4
1978	503,841,100	271,091,500	53.8
1979	652,857,400	357,749,900	54.8
1980	549,158,800	292,693,500	53.3
1981	645,750,100	389,486,400	60.3
1982	577,179,600	347,992,300	60.3

1. Earnings in dollars.

Source: Commercial Fisheries Entry Commission (1984a), Employment and Earnings of Alaska Residents in Alaska's Commercial Fisheries, 1977-1982.

TABLE 3-4: RESIDENT/NON-RESIDENT COMPARISON OF FISHERIES  
EMPLOYMENT IN ALASKA, 1977-1982,

<u>Year</u>	<u>Total Employed</u>	<u>Alaska Employment</u>	<u>Alaska Percent of Total</u>
1977	26,077	20,483	78.5
1978	29,716	22,794	76.7
1979	32,950	24,960	75.8
1980	32,853	24,194	73.6
1981	32,732	24,459	74.7
1982	32,915	24,228	73.6

1. Fisheries employment includes captains and crew members for all of the fisheries in Alaska. The numbers of crew members for each vessel were estimated by the Commercial Fisheries Entry Commission using crew factors supplied by the Alaska Department of Labor.

Source: Commercial Fisheries Entry Commission, (1984a), Employment and Earnings of Alaska Residents in Alaska's Commercial Fisheries, 1977-1982.

during 1978, 1979, and 1980 (Commercial Fisheries Entry Commission [CFEC] 1984a). In 1981 and 1982, the declining value of the crab fisheries caused nonresident fishermen's incomes to decline and the Alaska proportion of total earnings to increase.

Table 3-4 shows comparative employment figures for Alaskan and non-Alaskan workers participating in all fisheries in the state. While the figures for total participation generally correlate with the earnings figures from Table 3-3, the Alaska resident component of the total has declined from 78.5 percent of the total in 1977 to 73.6 percent of the total in 1982. In general, the figures for Alaska resident participation in fishing employment are higher than the comparative figures for gross earnings from the fisheries. This means that the gross earnings from Alaska's fisheries on a per-participant basis are less for Alaska resident fishermen than for nonresident fishermen.

The study team knows of no studies that have investigated the reasons for nonresident fishermen having a relatively larger average gross revenue in the shellfish fisheries in the Bering Sea and Dutch Harbor areas than Alaska resident fishermen. However, the generally accepted reason for this phenomenon among fishery managers is that nonresident fishermen on average have a relatively higher capital investment in gear and equipment. Based upon the experience of the study team, it is assumed that larger vessels and a greater investment in gear correlate positively with increased gross revenues. The data files used to develop Table 3-5 indicate that a number of king and Tanner crab vessels fished by resident Alaskans are under 50 feet in length, thus lowering the average vessel length for the resident owned fleet. All of the nonresident fishermen have vessels over 50 feet in length; this pattern confirms the generally accepted assumption that the nonresident fleet has a greater capital investment in gear.

Fisheries in the study area show a lower proportion of Alaska resident to nonresident fishermen's income than fisheries in other areas of the state. This difference could be attributed to such factors as: 1) the relatively low numbers of fishermen in the communities within the study area; 2) a large capital investment in a vessel and gear required for participation in

TABLE 3-5: KING CRAB CATCH AND VALUE IN 1982  
BY FISHERMEN'S AREA OF RESIDENCY

<u>Residency and Harvest Area</u> <sup>1</sup>	<u>Number</u> <sup>2</sup>	<u>Harvest (lbs)</u>	<u>Value (\$)</u>
Non-Alaskans:			
Dutch Harbor	71	1,123,589	2,326,748
Bering Sea	142	11,667,830	27,143,126
West Aleutians	76	3,716,343	7,799,443
Bristol Bay	80	<u>2,629,450</u>	<u>7,115,828</u>
Total Non-Alaskans		19,137,212	44,385,145
Aleutian Islands Residents:			
Dutch Harbor	22	319,725	662,884
Bering Sea	16	893,528	2,074,362
West Aleutians	8	319,751	670,691
Bristol Bay	5	<u>104,382</u>	<u>283,188</u>
Total Aleutian Islands		1,637,386	3,691,125
Other Alaskan Residents:			
Dutch Harbor <sup>4</sup>	9	48,428	101,002
Bering Sea <sup>5</sup>	14	984,029	2,269,296
West Aleutians	11	437,744	970,687
Bristol Bay	8	<u>636,934</u>	<u>1,427,543</u>
Total Other Alaskan		2,107,135	4,768,528

1. Harvest areas are the Alaska Department of Fish & Game regulatory areas. Residency is based upon the permit owner's home port under which landings are made. Landings listed under the Aleutian area include those made by permit holders living within the Aleutian census area.
2. The number represents the number of permit holders who registered landings during 1982 for each fishery zone. The numbers of participants cannot be added to give the total number of vessels fishing king crab since the Bering Sea and the west Aleutians are non-exclusive registration areas. A vessel can register to fish Dutch Harbor for example, and also fish in the Bering Sea.
3. The catch and income figures for Dutch Harbor do not include five participants due to the need for confidentiality of data concerning individual permit holders.
4. The catch and income figures for the Bering Sea do not include four participants due to the need for confidentiality of data concerning individual permit holders.
5. The catch and income figures for the west Aleutians do not include four participants due to the need for confidentiality of data concerning individual permit holders.
6. The catch and income figures for Bristol Bay do not include four participants due to the need for confidentiality of data concerning individual permit holders.

Source: Commercial Fisheries Entry Commission (n.d.), unpublished computer files.

the crab fisheries; and 3) a fairly short history of commercial exploitation of fishery resources in the area.

Table 3-5 shows the relative proportion of harvest and income for resident and nonresident fishermen for king crab fisheries within the study area. In 1982, approximately 84 percent of **total** value of the king crab catch from the Dutch Harbor, Bering Sea, west Aleutians, and Bristol Bay regulatory areas was landed by nonresident fishermen. Fishermen from the Aleutian census area accounted for seven percent of **total value**, with the remaining nine percent accounted for by fishermen from other areas of the state (primarily Kodiak and the **Kenai Peninsula**)

The relative proportion of the king crab catch landed by residents and nonresidents will vary from year to year, depending on their success and the number of fishermen involved. It is reasonable "to assume that the relative proportions **landed** by resident and nonresident Tanner crab fishermen would be similar to king crab since the same vessels and gear are used for both species. It would **be** interesting to look at the relative contribution for **all species landed** within the study area, but this is not possible with the data currently available from the **CFEC**. To complete this additional analysis, it **would** be necessary to generate aggregations of computer files which, at present, do not exist.

#### Income and Employment in Fish Processing

The largest center for shore-based fish processing in the Aleutian/Pribilof area is Dutch Harbor. Other centers for fish processing are Akutan, St. George, St. Paul, and Atka. The decline in king and Tanner crab in the study area has had an adverse impact on the seafood processing companies, particularly those that are shore-based. Consequently, a number of processors have ceased operations in the area. Pacific Pearl, Pan Alaska, and Seapro, formerly based in Dutch Harbor, are just a few of the processing firms that no longer operate in the region.

Table 3-6 shows total number of processing jobs within the **Unalaska** census subarea (which includes almost all processing facilities within the study area except St. George, St. Paul, and Atka) for the years 1980 through

TABLE 3-6: **PROCESSING JOBS AND WAGES PAID**  
 WITHIN THE UNALASKA SUBAREA 1980 TO 1984<sup>(1)</sup>

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
<b>1<sup>st</sup> Quarter:</b>					
# of firms <sup>2</sup>	10	13	14	14	11
# of employees <sup>3</sup>	811	898	778	848	545
total wage <sup>4</sup>	2,813,409	3,343,509	2,675,540	2,844,606	2,766,800
<b>2nd Quarter:</b>					
# of firms	10	13	15	13	10
# of employees	1,143	1,413	1,052	869	724
total wages	4,967,371	5,750,317	4,097,505	4,308,236	3,709,475
<b>3rd Quarter:</b>					
# of firms	11	13	14	11	10
# of employees	947	1,390	1,107	1,025	768
total wages	4,937,660	5,863,434	5,388,563	4,758,787	4,507,363
<b>4th Quarter:</b>					
# of firms	12	14	15	11	9
# of employees	1,313	1,241	597	566	354
total wages	6,284,630	4,687,146	2,560,153	2,599,161	2,137,561
<b>Total Annual Wages</b>	19,003,070	19,644,406	14,721,761	14,510,790	13,121,199
<b>Peak Employment</b>	1,313	1,413	1,107	1,025	768

1. The Unalaska census subarea includes: *Akutan*, Dutch Harbor, Unalaska Bay, *Biorka*, Captains Bay, *Chernofski*, *Kashaga*, *Makushin*, and Sedanka Island.
2. This is the number of firms actually in operation during the quarter.
3. This is the peak number of employees in seafood processing during the quarter.
4. The sum total of all wages paid to processing workers during the quarter.

Source: Compiled by **RecourcEcon** from unpublished computer files provided by the Alaska Department of Labor, Research and **Analysis** Section (1985).

1984. Employment data from fish processing are not available from the **Pribilofs** since only one seafood processing company is located in each community. Release of that information would violate state confidentiality statutes. The figures in this table also exclude employees of many floating processors, since they are not registered as Alaskan companies and do not report employment statistics to the Alaska Department of Labor (ADOL).

As Table 3-6 shows, total employment, as well as wages paid to processing workers, declined between 1981 and 1984. In 1981, over \$19 million was earned by a peak labor force of 1,413. A steady downward trend led to a 1984 total of \$13.1 million earned by a peak work force of 768. Despite this decline, seasonal processing work continues to be a major source of employment in the communities within the study area.

The number of firms operating in the study area varies seasonally. The first quarter is the slowest season for processing activity (Table 3-6). In most years, peak employment occurred during the second or third quarter. The number of firms operating in each quarter is relatively stable, though slightly fewer firms operated in 1983 and 1984 than in previous years.

Shore-based plants currently operating in Dutch Harbor include Universal Seafoods and East Point Seafoods. Universal Seafoods operates the stationary processing barge **UniSea** and the **UniSea Inn**, a hotel in Dutch Harbor. For its business activities in Dutch Harbor, Universal Seafoods employs a staff of 300, most of which are seasonal positions (field interviews 1985). Approximately 100 of these jobs are year-round positions, including engineers and cooks for the **UniSea** barge and housekeepers and cooks for the **UniSea Inn**. As of fall 1985, none of the employees of Universal Seafoods were "local residents," although many who went to the community to work now reside there year-round. The company reports a strong interest in obtaining local residents to work in various positions, but they have had little success in attracting those workers. Information on employment at East Point Seafoods, the other shore-based plant in Dutch Harbor, was not available to the study team.

Universal Seafoods has recently purchased the Pacific Pearl shore plant in Dutch Harbor and plans to operate it as a **surimi** plant. The new venture will be called **Greatland** Seafoods, Inc. and will be a year-round venture. The operation will target on **pollock** to be processed into **surimi**, a processed seafood paste which can be made into a myriad of food products. When the new operation comes on line, around April 1986, it will employ 110 workers year-round to process approximately 10 million pounds of **pollock**. If the venture is successful, the additional permanent employment will greatly add to the stability of seafood industry employment in Dutch Harbor.

An agreement to operate a second **surimi** plant in Dutch Harbor has recently been reached between Wards Cove Packing Company, Inc. and the Japanese companies of Taiyo Fisheries Company and **Marubeni** Company. The new joint venture company will be called **Alyeska** Seafoods, Inc. and will operate the Pan Alaska plant in Dutch Harbor. The company will focus on **pollock** to be made into **surimi**. It will employ 127 people year-round in Dutch Harbor and will contribute to seafood employment stability in the community.

Floating processors are ships outfitted with processing equipment. They have the advantage of moving to new locations as stocks of fish change in abundance. Compared to shore based plants, working conditions and accommodations on floating processors are generally confining. The crew is committed to work for the duration of the season because the ship may seldom visit port. The usual practice for workers on floating processing ships is to be hired in port (in the Seattle area) and to contract for a specific period of time. The workers travel to and from the fishing areas with the vessel. This system eliminates employee travel costs for operators of floating processors, an expense which shore-based operators face.

The number of floating processors operating in waters within the study area varies from season to season, since floaters move to where opportunities are best for the particular species they wish to process. Keeping accurate account of the number present at any one time is difficult, even for the Alaska Department of Fish and Game (**ADF&G**) field biologists working in the



area. An indication of the potential number of processors can be obtained from the following listing of vessels that operated in the area for at least part of the 1984 season (source: ADF&G [1985] and study' team files).

- o M/V Akutan
- o M/V Alaskan Enterprise
- o M/V All Alaskan
- o M/V American #1
- o M/V Arctic Lady
- o M/V Billican
- o M/V Bountiful
- o M/V Clipperton
- o M/V Elsa Fiord
- o M/V Galaxy
- o M/V Hawaiian Princess
- o M/V Mr. J
- o M/V Nordic Monarch
- o M/V Northern Endeavor
- o M/V OmniSea
- o M/V Patricia Lee
- o M/V Pavlof
- o M/V Penguin
- o M/V Polar Command
- o M/V Sea Alaska
- o M/V Tempest
- o M/V Viceroy

The number of floating processors operating within the study area in the future will depend upon the abundance of crab and other fishery resources and operating decisions of the vessel owners.

The study community residents' opportunity for employment on floating processors was discussed with representatives of several processing companies. The conclusion from those discussions was that such opportunities are limited. Most floating processors enter Alaskan waters with the crew already aboard. Barring illness or injury, additional crew are seldom required. It was emphasized that working on these vessels may require a commitment to work for several months at a time in less than ideal conditions. Moreover, field interviews indicated that residents of Aleutian/Pribilof Islands communities have not found employment on floating processors attractive. In addition to the long hours, cramped living and working quarters, and isolation from one's community, the increased availability of community-based non-processing jobs (e.g., with the local government or village corporation) has provided preferred alternatives to processing employment.

The trend toward floating processors for fisheries in the study area has had a definite impact on shore-based employment opportunities for local residents. Determining the impact of this trend is difficult, however, since the relative amounts of production from the two types of processing plants are not differentiated in **ADF&G** statistics. To address this problem, the study team worked with individuals at the Alaska Department of Revenue to create a data base to assess the relative proportions between shore-based vs. floating facilities for fish processed within the study area.

Tables 3-7 and 3-8 provide a summary of this data base, showing the relative amounts of fish products processed, by species, for 1983 and 1984. While these tables contain a great deal of information, the major points are:

- o In 1984, shore-based processors in Dutch Harbor accounted for 72 percent of total value for fish processed in that area. King crab and Tanner crab were the most important species, followed by pink salmon (\$15.8 million, \$11.8 million, and \$10.8 million respectively).
- o Other important species processed in 1984 by the shore-based plants in Dutch Harbor included **Pacific cod**, roe herring, salmon eggs, chum salmon, and food herring.
- o Floating processors in Dutch Harbor accounted for 17 percent of total value for processed fishery products. Most of **this** total was contributed by king and Tanner crab, with relatively smaller amounts from **Pacific cod**, **dungeness** crab, and other species.
- o The remaining 11 percent of 1984 production from Dutch Harbor was from the combined category of shore-based and floating processors. This aggregation was made by the ADOL since the number of plants processing these species was too small to protect their confidentiality. It is a reasonable assumption that all sockeye salmon were processed by the shore-based plants (having been barged in from Bristol Bay) and that all Pacific Ocean perch and pollock were processed by floating processors. Given these assumptions, the revised proportions for 1984 production in Dutch Harbor are:
  - Shore based . . . . . 81 percent of total value
  - Floating processors . . . . . 19 percent of total value
- o Almost all production within the Aleutian Islands area during 1984 was from floating processors. The main species produced was king crab.
- o For the entire Dutch Harbor/Aleutians area, the 1984 proportions for value of production were:

TABLE 3-7: FISH PRODUCTION AND VALUE IN 1984  
FOR FLOATING AND SHORE-BASED PROCESSING COMPANIES  
IN DUTCH HARBOR AND THE ALEUTIANS

<u>Species</u>	<u>Pounds Landed</u>	<u>Values</u>
DUTCH HARBOR: Shore-based and floating processors		
sockeye	3,046,004	\$6,804,667
Pacific ocean perch	1,689,588	1,224,399
pollock	<u>173,472</u>	<u>151,376</u>
Totals	4,909,064	\$8,180,442
DUTCH HARBOR: Floating processors		
<b>dungeness</b> crab	118,227	333,605
king crab	1,095,316	6,435,307
Tanner crab	2,554,593	4,069,296
Korean hair crab	11,370	27,845
Pacific cod	1,313,472	1,378,243
<b>herring(food)</b>	555,190	171,606
black cod	<u>182,212</u>	<u>164,211</u>
Totals	5,830,380	\$12,580,113
DUTCH HARBOR: Shore-based processors		
salmon eggs	672,849	2,611,593
chinook salmon	45,561	89,573
coho salmon	294,826	370,459
pink salmon	8,653,131	10,810,310
chum salmon	2,205,428	2,584,105
<b>dungeness</b> crab	32,877	65,944
king crab	2,218,870	11,863,393
Tanner crab	8,077,320	15,819,406
Korean hair crab	149,201	376,971
Pacific cod	3,375,272	3,313,801
turbot	23,325	10,621
halibut	1,045,073	1,306,851
<b>herring(bait)</b>	786,931	211,760
<b>herring(roe)</b>	2,460,929	3,124,179
<b>herring(food)</b>	3,193,358	1,011,349
black cod	<u>395,385</u>	<u>443,546</u>
Totals	33,630,336	\$54,013,861
ALEUTIAN ISLANDS: Shore-based and floating processors		
Tanner crab	<u>88,735</u>	<u>211,417</u>
Totals	88,735	\$211,417
ALEUTIAN ISLANDS: Floating processors		
king crab	<u>2,179,467</u>	<u>10,191,710</u>
Totals	2,179,467	\$10,191,710
ALEUTIAN ISLANDS: Shore-based processors		
<b>dungeness</b> crab	<u>75,000</u>	<u>185,000</u>
Totals	75,000	\$185,000

Source: Alaska Department of Revenue (n.d.), unpublished data files.

TABLE 3-8: FISH PRODUCTION AND VALUE IN 1983  
FOR FLOATING AND SHORE-BASED PROCESSING COMPANIES  
IN DUTCH HARBOR AND THE ALEUTIANS

<u>Species</u>	<u>Pounds Landed</u>	<u>Values</u>
DUTCH HARBOR: Shore-based and floating processors		
salmon eggs	244,734	\$1,011,288
chinook salmon	160,310	326,785
sockeye salmon	3,636,042	6,437,184
coho salmon	28,229	27,447
chum salmon	784,410	906,057
halibut	688,203	1,070,913
herring(roe)	<u>2,938,820</u>	<u>1,547,022</u>
Totals	8,480,748	\$11,326,696
DUTCH HARBOR: Floating processors		
king crab	702,704	4,633,000
Tanner crab	4,629,005	11,946,068
Korean hair crab	43,192	60,958
Pacific cod	2,111,626	1,998,134
Herring(food)	<u>2,069,922</u>	<u>864,427</u>
Totals	9,556,449	\$19,502,587
DUTCH HARBOR: Shore-based processors		
pink salmon	422,443	366,197
king crab	2,407,514	18,143,699
Tanner crab	12,198,962	22,374,705
Korean hair crab	340,712	672,634
Pacific cod	8,488,747	6,759,983
herring(food)	<u>3,539,886</u>	<u>1,127,901</u>
Totals	27,398,270	\$49,445,119
ALEUTIAN ISLANDS: Shore-based and floating processors		
Tanner crab	<u>212,261</u>	<u>574,125</u>
Totals	212,261	\$574,125
ALEUTIAN ISLANDS: Floating processors		
king crab	4,975,008	36,006,323
Korean hair crab	1,391	2,462
Pacific cod	<u>701,300</u>	<u>320,085</u>
Totals	5,677,699	\$36,328,870
ALEUTIAN ISLANDS: Shore-based processors		
king crab	<u>532,454</u>	<u>4,108,049</u>
Totals	532,454	\$4,108,049

1. Areas correspond to the AD F&G regulatory areas.

Source: Alaska Department of Revenue (n.d.), unpublished data files.

Shore based . . . . . 72 percent  
Floating processors . . . . 28 percent

- o During 1984, the different crab species accounted for \$49.5 million (58 percent) of the total processed value of \$85.4 million in the combined Dutch Harbor/Aleutian Islands area.
- o The combined category of shore-based/floating processors in Dutch Harbor accounted for 14 percent of total **value** of fish processed in 1983. Again, this aggregation was made by the Alaska Department of Revenue to protect the confidentiality of individual processing companies. It is a reasonable assumption that **all fish** listed in the combined total were actually processed by shore-based plants, since the catch was predominantly salmon.
- o Given the above assumptions, the proportions for products by plants in the Dutch Harbor area in 1983 were:
  - Shore-based: \$60.8 million or 76 percent of total value for the region.
  - Floating: \$19.5 million or 24 percent of total value for the region.
- o King and Tanner crab were by far the most **important** species for shore-based **plants** in Dutch Harbor in 1983. Those two species alone accounted for \$40.5 million of the **total** production.
- o The different species of salmon accounted for the second largest component of total processing value. Pink salmon was processed in very small amounts since this species is abundant **only** during even years in the study area and in Bristol Bay, which supplies most of the salmon processed in Dutch Harbor. Pacific cod, herring (for roe and food), and halibut were also processed by shore-based plants in 1983.
- o Floating plants in the Dutch Harbor area concentrated almost entirely on king and Tanner crab processing during 1983, with **only** small amounts of Pacific cod, Korean hair crab, and (food) herring being processed.
- o Most of the production within the Aleutian Islands area in 1983 came from floating processors. Over \$36 million from the total value of \$40.9 million was processed by floating plants. King crab accounted for most of the production with relatively minor amounts from Pacific cod and Korean hair crab.
- o Shore-based plants in the Aleutian Islands area produced \$4.1 million of king crab in 1983.
- 0 For the entire Dutch Harbor/Aleutian Islands area in 1983, the difference in amount processed between shore-based and floating processors was less pronounced than in 1984. The difference was due **mainly** to low production of king and Tanner crab by floating processors in 1983. This low production was probably not of their choosing. In 1984, there was no opening for red king crab in the Bering Sea registration area which is usually the area contributing the largest amount to the total harvest.

The analysis of these two years of production data from processing plants in the study area demonstrates the variability of the seafood industry. The total value of the production from the Dutch Harbor/Aleutian Islands area decreased from \$121 million in 1983 to \$85 million in 1984.

#### Joint Venture Fisheries

Joint venture fishing operations are relatively new to Alaska. The first joint venture in Alaskan waters began in 1978 with several American catcher vessels and a Korean fishing company. The growth of Alaskan joint ventures in the few years since that beginning has been explosive. The history of this rapid growth is shown in Table 3-9.

In the usual joint venture, the foreign partner provides a factory ship which acts as a floating processing platform and also supplies the catcher vessels with fuel, water, and even food and mechanical repairs. In general, joint ventures are relatively self-supporting and have relatively few needs for supply from ports within the areas fished.

Within Alaskan waters, the Bering Sea accounts for the major part of the joint venture catches. In 1984, 65 percent of the total joint venture catch was from the Bering Sea, with the remainder from the Gulf of Alaska.

Even with most of the joint venture activity in state waters occurring in or near the study area, the benefit to local residents or communities from this activity may be relatively minor. Joint venture catcher vessels use relatively small crews (usually three plus the skipper). The crew responsibilities require technical experience in trawl fishing, making it difficult for fishermen without this level of experience to find a position. The opportunities for crew member employment for local resident fishermen are limited due to these factors.

When breakdowns occur, or before and after fishing periods, joint venture vessels and their crews may spend time in port, frequently Dutch Harbor. Since virtually all vessels are from other areas, the time spent in port is usually limited.

TABLE 3-9: ALASKAN JOINT VENTURES, 1978 TO 1985

<u>Year</u>	<u>Number of Companies</u>	<u>Total Catch</u> <sup>1</sup>
1978	1	45.
1979	2	1,507.
1980	2	33,425.
1981	6	95,501 <sub>0</sub>
1982	10	<b>179,556.</b>
1983	13	350,901.
1984	23	<b>581,168.</b>
1985	31	892,764. <sup>(2)</sup>

1. Catch is in metric tons.
2. Preliminary estimate.

Source: **ResourceEcon** estimates based on National Marine Fisheries Service data (1985).

### Regulatory Overview

Fishery regulations have a very strong impact on communities within the study area since commercial fishing is such an important part of the local economy and lifestyle. The regulatory environment has the potential to direct development within the region or to encourage the development of fisheries for different species. This section briefly reviews some of the important regulatory issues with potential for affecting the fisheries within the study area.

Commercial fishing in waters of the study area, as well as all other waters of Alaska, are managed by several regulatory agencies. Groundfish are managed by the North Pacific Fishery Management Council (NPFMC) through the regulatory authority of the secretary of commerce. The NPFMC is responsible for fisheries resources from three to 200 miles offshore. The NPFMC also makes recommendations on allocations of groundfish to joint ventures and to foreign nations. Management authority for regulation of the halibut fishery is the responsibility of the International Pacific Halibut Commission (IPHC). The ADF&G has management authority for fisheries conducted within the territorial waters of the state, extending from shoreline to three miles offshore.

Internal waters are areas inside the territorial waters of the state, including some enclosed bays. Determination of inshore waters is made by the U.S. Coast Guard. The existence of inshore waters is of particular importance to the formation of joint ventures with foreign partners. In internal waters, the Magnuson Fisheries Conservation Management Act (MFCMA) authorized the governor of Alaska to permit foreign processing ships to operate, subject to certain conditions. Two communities within the study area, St. George and Atka, are considering the possibility of fisheries development with a foreign partner. The potential for inshore waters joint ventures may assist those communities in establishing a fishing operation which would not be feasible without this regulatory incentive.

### Other Industry

As discussed in the preceding sections, manufacturing activity (principally fish processing) is the major industry in the Aleutian Islands census area,



accounting for approximately 38 percent of all jobs in 1983 (Table 3-1); federal, state, and local governments employ almost as many persons (1,267) and account for 38 percent of total employment. The remaining 24 percent (839 jobs) is divided (in descending order) between services, transportation, communication and utilities, construction, **retail** trade, finance, insurance, and real estate, and is the focus of this section on Other Industry.

Two major regional organizations included in the Other Industry sector are the regional Native corporation (**Aleut Corporation**) and the Aleutian/Pribilof Islands Association (**A/PIA**), the regional nonprofit organization associated with the **Aleut Corporation**. The **Aleut Corporation** and the **A/PIA** are headquartered in Anchorage. The corporation provides 25 to 30 jobs for its shareholders through an oil industry service company, **Pribilof Offshore Support Services (POSS)**, located at St. Paul adjacent to the airport. Other jobs and income to the corporation are generated through **Panama Marine, Ltd.**, a ship repair service in **Unalaska**. In addition to providing jobs, the corporation has also **paid annual** dividends to its shareholders.

**A/PIA** provides a number of **social** service programs and administers a significant portion of state and **federal** funds that come into the region. These programs include housing and **weatherization**, community health, through the Village Public Safety Officer (**VPSO**) program, and education and training. **A/PIA** employs approximately 50 persons with 40 of these positions located in Aleutian/ **Pribilof** communities, and the remainder in Anchorage.

#### Employment and Income

Economic information for the Aleutian Island census area was obtained for 1980 through 1984 and was broken down by census subarea, annual quarter, and four categories: employment, monthly wage, payroll, and number of firms. Information for the entire census area is not presented here; data shown in Tables 3-10 and 3-11 are for selected subareas within the larger census area. The cities of **St. George** and **St. Paul** are the only communities included in census subarea 568. **Akutan** and **Unalaska** are included in census subarea 563 along with several other smaller villages (identified in Table 3-10).

TABLE 3-10: UNALASKA AREA REGIONAL ECONOMY<sup>1</sup>

Year	Quarter:				Yearly	Payroll Total
	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>		
<b><u>1980</u></b>						
Employment	1,054	1,386	1,225	1,634	1,325	
Monthly Wages	\$1,212	\$1,498	\$1,712	\$1,610	\$1,524	
Payroll	\$3,831,956	\$6,225,529	\$6,289,919	\$7,891,399	NA	\$24,238,803
# of Firms	43	45	43	45	44	
<b><u>1981</u></b>						
Employment	1,215	1,770	1,781	1,617	1,596	
Monthly Wages	\$1,312	\$1,410	\$1,458	\$1,413	\$1,406	
Payroll	\$4,782,178	\$7,490,066	\$7,789,913	\$6,852,042	NA	\$26,914,249
# of Firms	<b>48</b>	48	56	55	52	
<b><u>1982</u></b>						
Employment	1,137	1,441	1,515	1,002	1,274	
Monthly Wages	\$1,307	\$1,520	\$1,773	\$1,693	\$1,582	
Payroll	\$4,457,132	\$6,572,914	\$8,061,736	\$5,090,557	NA	\$24,182,344
#of Firms	55	57	59	62	58	
<b><u>1983</u></b>						
Employment	1,212	1,256	1,422	992	1,221	
Monthly Wages	\$1,411	\$1,826	\$1,753	\$1,788	\$1,695	
Payroll	NA	NA	NA	NA	NA	NA
# of Firms	61	61	58	59	60	
<b><u>1984</u></b>						
Employment	936	1,082	1,114	722	964	
Monthly Wages	\$1,763	<b>\$1,907</b>	\$2,097	\$2,085	\$1,960	
Payroll	\$4,950,762	\$6,190,437	\$7,008,905	\$4,515,485	NA	\$22,665,589
# of Firms	58	55	53	53	55	

NA: Not available.

1. Census subarea 563 includes Unalaska, Akutan, Biorka, Captains Bay, Chernofski, Dutch Harbor, Kashega, Makushin, and Unalaska Bay.
2. Average number of people employed during the quarter or year.

Source: Alaska Department of Labor, personal communication (1985).

TABLE 3-11: PRIBILOF ISLANDS REGIONAL ECONOMY<sup>1</sup>

Year	Quarter:				Yearly Average	Payroll Total
	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>		
<b><u>1980</u></b>						
Employment	263	315	<b>301</b>	258	284	
Monthly Wages	\$1,370	\$1,586	\$1,433	\$1,805	\$1,547	
Payroll	\$1,082,589	\$1,500,708	\$1,295,148	\$1,395,065	NA	\$5,273,510
#of Firms	16	17	<b>17</b>	<b>16</b>	17	
<b><u>1981</u></b>						
Employment	223	288	423	281	304	
Monthly Wages	\$1,489	<b>\$1,714</b>	\$1,264	<b>\$1,681</b>	\$1,506	
Payroll	\$992,824	\$1,480,762	\$1,605,580	\$1,415,230	NA	\$5,494,396
# of Firms	<b>16</b>	17	<b>16</b>	<b>15</b>	16	
<b><u>1982</u></b>						
Employment	225	<b>301</b>	<b>310</b>	297	<b>291</b>	
Monthly Wages	<b>\$1,749</b>	<b>\$1,581</b>	<b>\$1,756</b>	<b>\$1,701</b>	<b>\$1,043</b>	
Payroll	\$1,339,681	\$1,425,619	\$1,630,914	\$1,513,667	NA	\$5,909,881
#of Firms	<b>15</b>	<b>15</b>	<b>15</b>	15	<b>15</b>	
<b><u>1983</u></b>						
Employment	294	300	264	384	<b>311</b>	
Monthly Wages	\$1,792	\$1,699	\$2,020	\$1,773	<b>\$1,821</b>	
Payroll	\$1,579,022	\$1,529,385	\$1,602,087	\$2,044,789	NA	\$6,755,283
# of Firms	15	13	<b>15</b>	16	<b>15</b>	
<b><u>1984</u></b>						
Employment	424	<b>413</b>	359	323	380	
Monthly Wages	\$1,731	\$1,807	<b>\$1,744</b>	\$1,780	\$1,765	
Payroll	\$2,203,240	\$2,237,486	\$1,877,985	\$1,723,457	NA	\$8,042,168
# of Firms	16	<b>17</b>	<b>17</b>	<b>18</b>	17	

NA: Not available.

1. Census subarea 568 consists of the cities of St. George and St. Paul.
2. Average number of people employed during the quarter or year.

Source: Alaska Department of Labor, personal communication (1985).

Employment data for census subarea 563 (Table 3-10) reflects the changes which have occurred in the City of Unalaska economy since 1980. Unalaska is considerably larger than other communities included in the subarea and dominates subarea statistics. Annual average employment has declined from 1,325 persons in 1980 to 964 persons in 1984. Employment during the fourth quarter, the peak fishing period for king crab, experienced the largest decline from 1,634 jobs in 1980 to 722 jobs in 1984. Fish processing has declined significantly as a percent of total employment primarily due to reduced king crab harvests. This sector accounted for 80 percent of total subarea employment in 1980 but only 63 percent in 1984.

Total annual payrolls have also declined over the five year period. Employees in subarea 563 received over \$24 million in 1980 with payrolls peaking at almost \$27 million in 1981 and declining by 1984 to \$22.6 million.

The number of firms in the subarea has expanded from an average of 44 firms in 1980 to 55 firms in 1984. The number of firms peaked in 1983 when over 60 were active.

Census subarea 568 covers the islands of St. Paul and St. George, both of which have experienced significant changes in economic conditions since 1980. Annual average employment increased 34 percent from 284 in 1980 to 380 in 1984 (Table 3-11). Concomitantly, payrolls have increased 53 percent during the same time period. Total annual payroll increased from approximately \$5.3 million to over \$8 million during the five year period. Although some wages were paid to nonresidents, a significant portion of the additional \$2.7 million was income to local residents.

#### OCS Activities

Activities in the OCS area of the region began with geophysical surveys in 1963. From 1976 to 1983 Continental Offshore Stratigraphic Test (COST) wells were drilled and other geophysical and geological surveys were conducted. Tracts were leased in the St. George Basin in 1983 and in the Navarin Basin in 1984. Sixteen exploratory wells have been drilled in the exploration effort that began in 1984.

OCS activities conducted prior to the exploratory drilling effort included regional marine seismic surveys, high-resolution geophysical surveys, geological (**geotechnical** and **geochemical**) surveys, airborne geophysical surveys, and the operation of navigation systems. Drilling activities included operation of the drilling vessel, marine and air support services and bases, lease operator supervision, and services provided by numerous specialized contractors.

Several significant developments occurred as a result of these petroleum-related activities. A marine support base was constructed by Offshore Systems, Inc. at Captain's Bay near **Unalaska** for the purpose of supporting Bering Sea exploration. Air support for the **1985 Navarin Basin** exploration effort has been provided from a \$9.4 million helicopter base recently constructed on St. Paul Island.

Employment. Total man-years of employment for exploration activities in the Bering Sea for the 1980 to 1984 time period are presented in Table 3-12. Total man-years of employment for **local** (principally **Unalaska**) residents as a **result** of this activity are **also** presented in Table 3-12. The data presented here represent employment associated with direct OCS operations. They do not account for subsequent employment generated by the purchases of goods and services by petroleum industry subcontractors (e.g., food and fuel) or the wages paid to **local** residents.

Most of the employment of local residents was in Dutch Harbor and Cold Bay where marine and air support was provided. Estimates of man-years of employment for local residents was based on methods used by Patrick Burden & Associates (1985) to account for employment of Nome residents on Norton Sound wells.

Additional employment of **Pribilof** Island residents has occurred as a result of the new helicopter support base on St. Paul Island which began operation in 1985. Operation of this facility provides 25 to 30 jobs for Aleut Corporation shareholders, and current construction activity at the site employs another 25 shareholders. The camp had an estimated 25 oil industry and support company personnel in residence in September, 1985.

TABLE 3- I 2: BERING SEA OCS OPERATIONAL EMPLOYMENT

<u>Category</u>	Man-Years of Employment					<u>Total</u>
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	
A/PI Residents						
Unalaska/Dutch Harbor	9.00	11.00	15.75	12.75	36.50	85.00
St. Paul/St. George	<u>0.00</u>	<u>0.00</u>	<u>0.25</u>	<u>0.25</u>	<u>0.50</u>	<u>1.00</u>
Subtotal	9.00	11.00	16.00	13.00	37.00	86.00
Total (Residents & Nonresidents)	453.00	703.00	1,071.00	819.00	880.00	3,926.00

Source: Patrick Burden & Associates, estimates (1985),

Expenditures and Income. OCS operational exploration expenditures (monies spent by the oil industry excluding amounts paid for lease tracts and general administration) are estimated at \$47.0 million (Patrick Burden & Associates 1985). Of this total, \$44 million was spent by oil companies or their contractors in Bering Sea communities, with most of the expenditures in Dutch Harbor /Unalaska. Estimated expenditures within the Aleutian/Pribilof region during that period ranged from \$37 million to \$40 million.

Average annual wages paid to Alaska residents for exploration employment were estimated at \$18,000 per person (Patrick Burden & Associates 1985). Based upon this annual wage and the full-time equivalent of Aleutian/Pribilof region residents employed in exploration activities, total wages paid are estimated at \$1.5 million over the five year period.

The helicopter support base at St. Paul has significantly increased the number of persons employed and earnings associated with OCS activities. As stated previously, approximately 25 residents are employed at the facility for maintenance and catering. These employees earn an estimated \$14,000 annually. An additional 26 permanent residents are employed on current construction projects with an average hourly wage of \$22.00. Total wages paid to St. Paul residents are estimated at \$1.8 million for 1985.

The facility is operated by POSS, a subsidiary of the Aleut Corporation. Although earnings to the corporation from operation of the facility are not available, Aleut Corporation officials indicated that debt for the \$9.4 million facility will be retired by October, 1985, or within one operating season (Aleut Corporation, 1985c).

Tanadgusix Corporation leases the land that the facility occupies and earnings to the village corporation for this lease are estimated in excess of \$160,000 per year. Total monthly payments to both corporations are , estimated in excess of \$1,000,000.

### Intra- and Inter-regional Linkages

The Aleutian and Pribilof Islands are remote areas of Alaska with relatively low levels of infrastructure development and capital resources. As a result, communities within the region depend on other locations to provide labor, capital, and a wide variety of materials and supplies necessary for commercial and domestic needs.

Trade routes and linkages with communities external to the region have formed over many years. Some existing linkages are based upon trade routes that evolved prior to the emergence of Anchorage as a major city when Seattle and other west coast cities provided the majority of goods and services. Other linkages result from different transportation modes for materials, supplies, and services. The major marine transportation routes for bulk materials extend from Seattle to the Aleutian/Pribilof communities with occasional bulk shipments from Anchorage or Seward to Aleutian communities. Many of the services and some materials that are available in Anchorage, Juneau, or other Alaska locations are transported to the Aleutian/Pribilof Islands region by air. Anchorage is the major hub for air transportation in the state, with Cold Bay functioning as a regional air transportation center.

The following sections briefly describe the linkages that presently exist for the government sector, the fish harvesting and processing industries, and other businesses in the region. Tables in Appendix A demonstrate the flow of funds that occur within and between communities. With the exception of expenditures for diesel ~~and fuel~~ oil and for Akutan's purchases of supplies from Dutch Harbor businesses, funds identified as going outside the community went principally to Anchorage and Seattle.

#### Communities and Government

Cities in the region depend on federal and state funds for most of their revenues. Local revenues are generally limited to the community's share of the raw fish tax imposed by the State of Alaska, although some communities do have additional sales taxes.



In addition to being the source of funds that flow to the communities, locations such as Juneau and Anchorage provide a number of state and federal services to local governments. Seattle is the primary location outside Alaska for services provided by federal agencies.

Diesel and fuel oil for power generation and heating are the major bulk materials transported to local communities. The presence of large storage facilities at **Unalaska** has resulted in **fuel** being shipped from that site to the smaller communities instead of being transported directly from Seattle or other west coast ports. The exception to this pattern of distribution from **Unalaska** is the **Pribilof** communities. St. George and St. Paul have fuel shipped directly from Seattle following purchase patterns established in the past by the federal government. Chevron has historically been the primary supplier of petroleum products to the region. However, **Petro Marine**, out of Seward, Alaska, opened a bulk fuel distribution facility in **Unalaska** in 1984. Expenditures for fuel are major **intra-regional** transactions as noted in Appendix A tables.

Other bulk materials are purchased primarily from Seattle. St. Paul officials have estimated that 60 to 70 percent of other types of bulk materials come from Seattle, with the remainder coming from a variety of locations, including Anchorage. Anchorage is the most common origin for materials that must be air freighted into the community.

The community of Akutan is smaller than either of the **Pribilof** communities and requires lesser quantities of bulk materials. Most of this freight is shipped to Akutan through **Unalaska**.

#### Commercial Fishing

Dutch Harbor is the major center of seafood processing activity in the region. Akutan is the second largest in terms of fish landed and processed. Processing companies in these communities cause an inflow of operating capital for the fish processing operations. A large component of their expense is fish purchases from fishermen. The relative amounts of fish payments for each community can be estimated using available information. In 1984, Dutch Harbor

received \$303,966 in state revenue sharing of the three percent raw fish tax. Using this figure, the total value of fish landed in Dutch Harbor was approximately \$20 million in 1984.

In 1984, Akutan received \$102,758 in state revenue sharing from rebate of the raw fish tax. Using this figure, the total value of fish landed in Akutan was approximately \$6.8 million dollars. In the same year, the City of Akutan received \$27,581 from the city fish tax of 0.5 percent of the **ex-vessel** value of fish landed. Using this figure, the estimated value of the fish landed in Akutan in 1984 was \$5.5 million. The difference between these two figures could be attributed to floating processors who did not pay taxes to the City of Akutan. The higher figure is probably a more accurate estimate of total value of fish landed.

The value of fish landed (i.e., the amount paid to fishermen) in St. Paul and St. George in 1984 was \$100,000 and \$99,000, respectively. When compared with total price to fishermen in Dutch Harbor and Akutan, the small size of the commercial fisheries in the communities is easily apparent.

A large proportion of the money paid for fish goes to fishermen from outside the study region, either from other communities in Alaska or from outside the state (Table 3-3). Except for relatively small expenditures for items such as food, fuel, and entertainment, a large part of the income to fishermen landing fish in Dutch Harbor and Akutan flows outside the region. The smaller proportion of fishing income which is earned by fishermen from inside the region is more likely to be spent in the community and regional economy, adding to the benefit of all residents.

Most processing workers in the region, many of whom work in Dutch Harbor and Akutan, are seasonal, transient workers. Room and board is typically paid by the employer, so their major economic impact in the communities stems from wages spent on entertainment. This pattern does not apply to processing facilities in St. George or St. Paul since all processing workers in those communities are local residents. As transient workers leave at the end of the processing season, further expenditures of their wages earned in the area leave the region as well.

At the current stage of development, the commercial fisheries in St. Paul, St. George, and Atka are relatively independent from other fishing ports in the region. The fishermen and processing workers are all local residents, so there is limited need for interaction with other communities except in the areas of transportation and supply.

#### Other Industry

Other industry in the region, such as construction and retail trade, is primarily dependent upon fish harvesting and processing (the major private sector basic industry), and upon federal and state government revenues to provide the stimulus for economic activity. Some communities, such as Akutan and Dutch Harbor, are more dependent upon fishing while others, such as St. Paul and St. George, rely heavily upon state and federal funds.

Because Dutch Harbor is the regional center for fishing activity, a number of support businesses are located there to service Unalaska processors and fishermen, as well as facilities and vessels operating throughout the Bering Sea and Gulf of Alaska. This service represents a major intra-regional flow of funds but is not significant for the communities discussed in this report.

OCS activities have resulted in support bases at Captain's Bay and St. Paul. Regional income from the oil and gas industry originates primarily from offices in Anchorage although a number of other national and multinational firms operate in the area. Most employees on exploration vessels live outside the region and very low percentages of their earnings are spent in local communities. Most employees at the Offshore Systems, Incorporated (OSI) marine support base at Unalaska and the POSS base on St. Paul are residents of those communities with subsequent wages and salaries making a significant contribution to the community's economy. Oil company employees and employees of the support firms who work at these bases reside primarily in Anchorage or other communities outside of the region with limited expenditures in the regional economy.

The pattern of expenditures for other industry is similar to that described for Communities and Government. Bulk materials, with the exception of fuel,

generally originate in and are shipped via vessel from Seattle. Air transportation from Anchorage is used for services and some materials (e.g., perishables).

## DEMOGRAPHICS

### Population Growth

Table 3-13 presents population data for selected communities within the boundary of the Aleutian Islands census area. This area extends from Port Moller westward on the Aleutian Chain and includes the Pribilof Islands. Population figures for the census area were only available through 1983. The total population of the census area increased by 11 percent, from 7,768 in 1980 to 8,624 in 1981, then declined by 1.1 percent in 1982 and 0.03 percent in 1983 to 8,496. The decrease in employment opportunities in fish processing is a primary reason for the decline in population.

A majority of the population increase noted between 1980 and 1981 occurred in Unalaska. This apparent increase of 622 persons is a function of the time of year that the census surveys were conducted rather than an increase in the number of persons residing permanently in the community. The 1980 federal census was conducted in April while the surveys conducted for ADCRA by the City of Unalaska for 1981 and subsequent years were conducted during the peak fishing period.

Active duty military populations (principally at Adak and Shemya) are a substantial portion of total population in the census area, accounting for approximately 26 percent of the total population. The military population has remained relatively constant since 1980 although an increase of 5.2 percent did occur between 1983 and 1984.

According to information from ADOL, 1,266 births and 204 deaths occurred in the entire region during 1970 to 1980. The average rate of birth was 1.62 percent and the rate of death was 0.26 percent, indicating a natural increase in the population. However, population also declined by 0.8 percent during that

TABLE 3-13: POPULATION OF SELECTED ALEUTIAN COMMUNITIES <sup>1</sup>

<u>Location</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Total region <sup>2</sup>	7,768	8,624	8,525	8,496	NA	NA
Akutan <sup>3</sup>	169	189	188	189	189	218
Atka	93	NA	NA	93	NA	NA
Cold Bay	228	NA	250	252	250	NA
Nikolski	50	NA	NA	44	NA	NA
St. George	158	NA	NA	162	172	179
St. Paul	551 <sup>(4)</sup>	591 <sup>(4)</sup>	595 <sup>(4)</sup>	595 <sup>(4)</sup>	595 <sup>(4)</sup>	595 <sup>(4)</sup>
	NA	NA	NA	(528) <sup>5</sup>	(541) <sup>5</sup>	NA
Unalaska	1,322	1,944	1,922	1,922	1,922	NA
Active Duty						
Military	2,213	2,242	2,218	2,194	2,307	NA

NA Not available.

1. Population figures include nonresidents as well as residents.
2. Total region is the Aleutian Islands census area. In addition to the above communities, this region also includes King Cove, Sand Point, Nelson Lagoon, and False Pass.
3. All figures include processors in Akutan Harbor. Permanent village residents were estimated to number approximately 75 during the field visit.
4. City of St. Paul census estimates.
5. Alaska Department of Labor population estimates for St. Paul.

Sources: Alaska Department of Labor (n.d.c), Population Overview; City of St. Paul (n.d.), Census.

period due to out-migration. From 1980 to 1983, the population increased by 9.37 percent. Increases were also reflected in the annual birth rate at 2.12 “ percent and the annual rate of death of 0.39 percent. (Table 3-14 presents birth/death statistics by village from 1980 to 1984.)

The net migration rate (i.e., the difference between number of persons moving into the community and the number moving out) during the 1970s was a negative 1.45 percent. The situation changed from 1980 to 1983 with a positive net migration rate of 1.03 percent. Detailed information concerning in and out migration to the region was not available.

### Population Characteristics

Regional statistics for population characteristics such as age, sex, and racial distribution are only available for 1980 (Tables 3-15 and 3-16). The 1980 census area population of 7,768 was composed of the following racial groups (by percent of total population): 61.4 percent white, 24.8 percent American Indian, Eskimo, or Aleut, 7.4 percent of Asian or Pacific Island origin, 4.2 percent Black and 3.8 percent listed as Spanish origin. Twice as many whites as Natives resided in the census area in 1980, primarily due to the large number of whites in Unalaska. However, this relationship is reversed in many smaller communities in the region (Table 3-15).

The population of the census area is predominantly male with women comprising only 37.2 percent of the total population (Table 3-16). This fact reflects the hiring practices of the fish harvesting and processing industries. Three-quarters of the region's total population in 1980 were within the age category of 18 to 65. Less than 10 percent were five years and under and only 1.4 percent were over the age of 65. The median age for the total region in 1980 was 24.5 years.

Information concerning education levels for the census area was available for 1980 (see Table 3-17). Information was compiled for persons 25 years or older in five categories of levels of education achieved. As of 1980, 509 persons had completed elementary school, 346 had one to three years of high school education, 1,539 completed high school, 767 received one to three years of

TABLE 3-14: BIRTHS AND (DEATHS)<sup>1</sup>  
 SELECTED ALEUTIAN COMMUNITIES

<u>Location</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Akutan	3 (2)	1 (1)	0 (2)	4 (2)
Atka	3 (0)	0 (0)	2 (1)	2 (2)
Cold Bay	2 (0)	3 (1)	2 (0)	4 (0)
Nikolski	0 (0)	0 (1)	0 (1)	1 (0)
St. George	6 (8)	4 (0)	5 (0)	7 (3)
St. Paul	14 (5)	8 (8)	15 (7)	13 (5)
Unalaska	10 (2)	9 (2)	8 (6)	16 (6)

1. Numbers within parenthesis indicate deaths.

Source: U.S. Department of Commerce, Bureau of Census (1982a), 1980 Census of Population: General Population Characteristics. Alaska Department of Health & Social Services (n.d.), Vital Statistics.

TABLE 3-15: POPULATION BY RACE  
SELECTED ALEUTIAN COMMUNITIES

<u>Location</u>	<u>Total Population</u>	<u>White</u>	<u>Black</u>	<u>Am. Indian, Eskimo, and Aleut</u>	<u>Asian and Pacific Is.</u>	<u>Spanish Origin</u>
Total Region	7,768	4,775	329	1,934	580	297
Akutan	169	68	NA	67	31	15
Atka	93	3	NA	90	NA	NA
Cold Bay	228	194	7	10	12	7
Nikolski	50	2	NA	48	NA	NA
St. George	163	NA	NA	NA	"NA	NA
St. Paul	551	61	NA	483	3	2
Unalaska	1,322	848	19	200	220	42

Source: U.S. Department of Commerce, Bureau of Census (1982a), 1980 Census of Population: General Population Characteristics,



TABLE 3-16: POPULATION BY AGE AND SEX  
SELECTED ALEUTIAN COMMUNITIES

<u>Location</u>	<u>Total Population</u>	<u>Percent Female</u>	<u>Percent Under 5 YRS</u>	<u>Percent 18 YRS+</u>	<u>Percent 65 YRS+</u>	<u>Median Age</u>
Total Region	7,768	37.2	8.1	75.2	1.4	24.5
Akutan	169	51.2	4.7	87.6	5.3	27.2
Atka	93	45.1	8.6	61.2	6.5	27.0
Cold Bay	228	35.5	7.9	78.9	0.4	31.1
Nikolski	50	46.0	NA	52.0	0.2	40.7
St. George	163	NA	NA	NA	NA	NA
St. Paul	551	42.8	11.4	61.0	3.4	22.2
Unalaska	1,322	35.1	3.5	85.2	9.1	26.8

Source: U.S. Department of Commerce, Bureau of Census (1982a), 1980 Census of Population: General Population Characteristics.

TABLE 3-17: EDUCATIONAL ATTAINMENT IN SELECTED ALEUTIAN/PRIBILOF COMMUNITIES, 1980

Highest Grade Level Completed	<u>Number of Residents by Community<sup>1</sup></u>							
	<u>Total Region</u>	<u>Akutan</u>	<u>Atka</u>	<u>Cold Bay</u>	<u>Nikolski</u>	<u>St. George</u>	<u>St. Paul</u>	<u>Unalaska</u>
Elementary	509	22	35	13	17	34	116	84
High School 1-3 years	346	11	7	22	1	4	33	92
High School 4 years	1,539	51	13	50	7	24	79	293
College 1-3 years	767	25	0	30	0	0	29	167
College 4 years	574	4	0	40	0	6	13	145

1. Persons 25 years old and older.

Source: U.S. Department of Commerce, Bureau of Census (1982a), 1980 Census of Population: General Population Characteristics.

college education, and 574 finished four years of college. The largest category, four years of high school, represented 19.8 percent of the population of the total region at that time.

### SUMMARY

In summary, the regional economy is dominated by the government (federal, state, and local) and fish processing sectors. These two components comprise approximately 75 percent of all employment and wages in the region. The regional population base is predominantly white and male, although Native Americans are generally the majority in smaller communities.

## IV. AKUTAN

### DEMOGRAPHY

#### Population Growth

The village of Akutan's population has fluctuated from approximately 60 to 90 residents during the last one hundred years. Official population figures for the community show a 29 percent increase between 1980 and 1981 when the village increased from 69 to 89 persons, and a relatively constant population since that time (Table 4-1). The 1985 field investigation identified 75 permanent residents and 10 nonresident construction workers and their families residing in Akutan, although the city's 1985 population estimate for the community is 89 persons.

Records show an additional 100 nonresidents in the community population from 1977 through 1984. This latter population is comprised of workers in local fish processing plants. In September 1985, the nonresident population in the processing facilities was estimated at 129 persons (field interviews 1985).

A third and separate population segment lives offshore on floating processors. This group is not shown in Table 4-1 and is not considered in official population records. In 1979, large king crab catches resulted in an offshore population of more than 1,000 people. This "floating" population has declined in response to the reduced king crab fishery.

Accurate records are not available for annual in and out-migration in Akutan, but net migration figures have been calculated by using statistics on births and deaths and the total population of Akutan (Tables 4-2 and 4-3). Field interviews conducted in 1985 revealed that residents believed the population was increasing because of a rising birth rate. Four births occurred in 1983 and 1984 which may provide the basis for the perceived increase. However, natural increases in the population have accounted for only one additional person in the community between 1980 and 1984.

TABLE 4-1: AKUTAN POPULATION OVERVIEW

<u>Year</u>	<u>Resident Population</u>	<u>Non-resident Population</u>	<u>Total Population</u>
1890	80	NA	80
1900	60	NA	60
1910	NA	NA	NA
1920	66	NA	66
1930	<b>71</b>	NA	<b>71</b>
1940	80	NA	80
1950	NA	NA	86
<b>1953</b>	92	NA	92
<b>1960</b>	<b>NA</b>	NA	107
1970	NA	NA	101
1977	69	100	169
1980	69	100	<b>169</b>
<b>1981</b>	89	<b>100</b>	189
1982	<b>89</b>	100	<b>189</b>
1983	77	<b>100</b>	<b>177</b>
<b>1984</b>	85	<b>100</b>	185
1985	89	129	218

Sources: Alaska Department of Labor (n.d.c), Population Overview. Alaska Department of Community and Regional Affairs (1982), City of Akutan 1982 Comprehensive Plan. Spaulding (1955), An Ethnohistorical Study of Akutan: An Aleut Community. Field interviews (1985).

TABLE 4-2: AKUTAN NET MIGRATION OF RESIDENT POPULATION

<u>Year</u>	<u>Population</u>	<u>Net Natural Change</u>	<u>Net Migration</u>
1980	69	+1	+19
1981	89	0	0
1982	89	-2	+1
1983	88	+2	-1
1984	89	0	0

Sources: Alaska Department of Labor (n.d.a), Statistical Quarterly. Field interviews (1985).

TABLE 4-3: AKUTAN BIRTHS AND DEATHS

<u>Year</u>	<u>Births</u>	<u>Deaths</u>	<u>Net Natural Change</u>
1980	3	2	+1
1981	1	1	0
1982	0	2	-2
1983	4	2	+2
1984	<u>1</u>	<u>1</u>	<u>0</u>
<b>Total</b>	9	8	+1

Sources: Alaska Department of Health & Social Services (n.d.), Vital Statistics. Alaska Department of Health & Social Services, personal communication (1985).

In-migration of 19 people in 1980 represents the remainder of the population increase. Although information is not available to completely document the reason this large increase occurred in just one year, people may have returned because of: 1) opening of the reconstructed Trident seafood plant; 2) additional employment opportunities in local processing plants during 1979 and 1980 king crab harvests; and 3) incorporation of Akutan as a second class city in 1979. Total net migration for the last four years has been zero.

### Population Characteristics

m Age and sex characteristics of Akutan's population were derived from 1980 census figures (Table 4-4 and Figure 4-1). These characteristics are for resident and nonresident populations of Akutan. The population composition structure (Figure 4-1 ) shows a large portion of the population are male in the prime working age range of 20 to 30. Such patterns result from the hiring practices of the fishing industry.

● The small number of children in the community is readily apparent from Figure 4-1. This age cohort structure for Akutan is significantly different from the typical population structure of rural Alaska. The traditional pyramid shape for population composition found in most villages represents a growing community with significant natural increases in population. Akutan did not display this typical pattern in 1980. However, fieldwork suggested that a current population analysis (for residents of the village, excluding processing workers) likely would yield a more pyramidal population distribution.

● The 1980 resident and nonresident population in Akutan is comprised of four major groups: Aleut, white, Filipino, and other Asian. The white, Filipino, and other Asian populations result from outside hiring to accommodate employment requirements of both onshore and offshore fish processing. Data regarding racial composition have not been updated since the 1980 census.

### Education and Occupational Skills

\* The 1980 census data give information on years of school completed for that population of Akutan over 25 years of age (Table 4-5). Information presented in Table 4-5 includes nonresidents working in processing plants. Over 70 percent



TABLE 4-4: AKUTAN POPULATION COMPOSITION

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0-4	5	3	8
5-9	0	0	0
10-14	3	5	8
15-19	15	4	<b>19</b>
20-24	26	13	<b>39</b>
25-29	<b>16</b>	8	24
30-34	8	<b>5</b>	13
35-39	8	1	9
40-44	8	2	10
45-49	6	3	9
50-54	7	3	10
55-59	5	3	8
60-64	1	2	3
65+	<b>7</b>	2	9

Source: U.S. Department of Commerce, Bureau of Census (1982a), 1980 Census of - , Population: General Population Characteristics.

FIGURE 4-1 : AKUTAN POPULATION COMPOSITION 1980

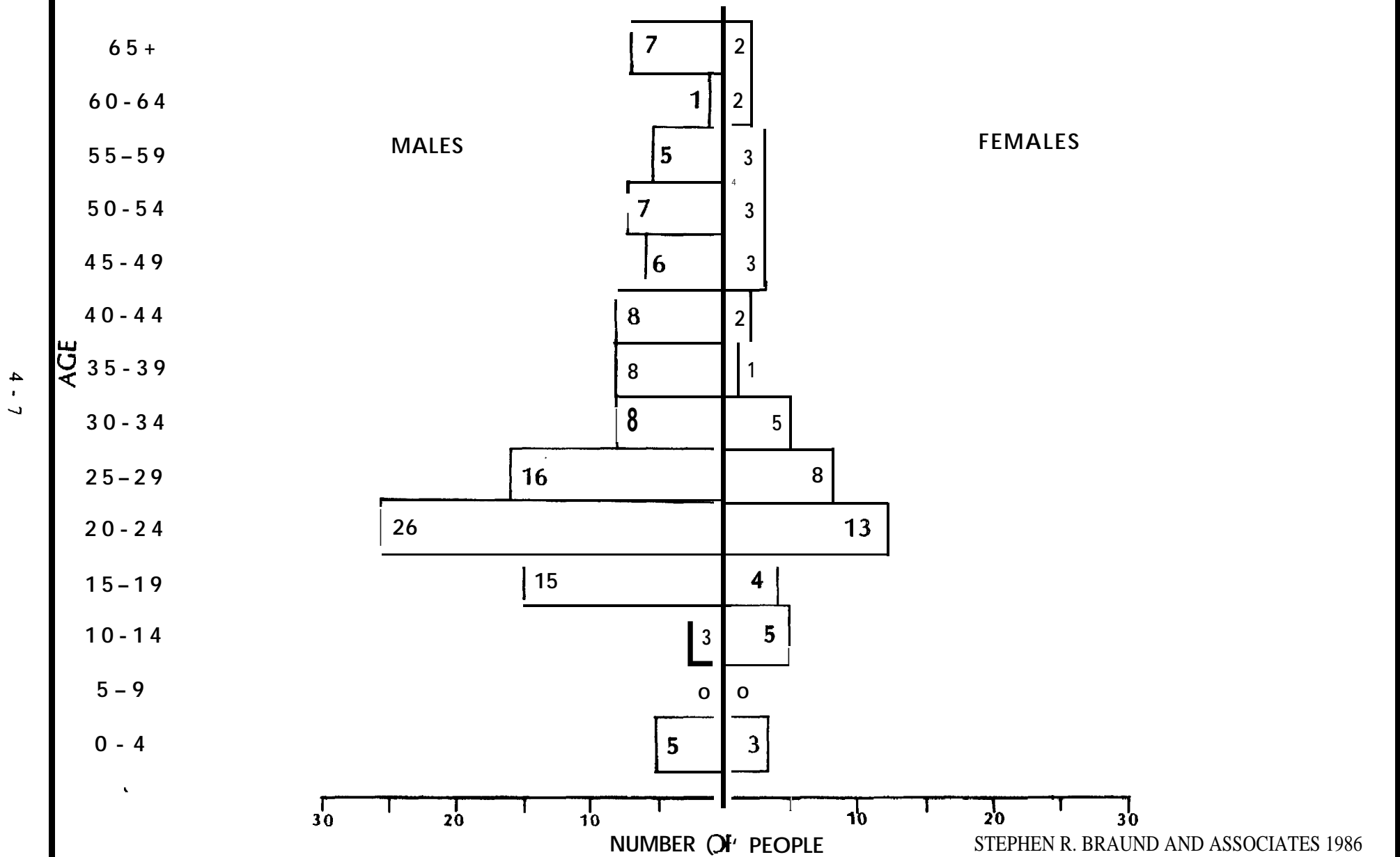


TABLE 4-5: EDUCATIONAL ATTAINMENT IN AKUTAN, 1980

<u>Highest Level Completed</u>	<u>Number of People</u> <sup>1</sup>
Elementary	22
High School (1 to 3 yrs)	11
High School (4 yrs)	51
College (1 to 3 yrs)	25
College (4 yrs)	4

1. Persons 25 years old **and older**.

Source: U.S. Department of Commerce, Bureau of Census (n.d.d), 1980 Census of Population and Housing, Summary Tape File 3A.

of the population has at least a high school education, comparable to educational levels for the entire Aleutian Islands census area. Only four percent of Akutan's population has a college education whereas 15 percent of the population in the Aleutian Island census area meets this level. Educational levels in the community reflect labor requirements of the major employers.

Occupational skills information is not available for Akutan. However, residents indicated they would be interested in working in an OCS related sector, if they could be properly trained.

### LOCAL ECONOMY

The economy of Akutan is closely tied to the commercial fishing industry. It provides employment and income directly in the form of crew positions on fishing vessels and processing jobs. It also provides the tax base for the City of Akutan operations and employment. The decline in the fisheries for king and Tanner crab have been felt in Akutan, with fewer processing companies operating and fewer numbers of fishing vessels in the area than in the peak years of 1979 to 1981.

The trend to increased numbers of floating processors in the region adds some uncertainty to the future employment and tax base in Akutan. Currently, Akutan receives little benefit from many of the fishing vessels and processors who come into Akutan Bay temporarily and have limited interaction with the community on an economic level. Diversification in the operations of Trident Seafoods into species other than crab, such as Pacific cod and pollock, has the potential to add to the stability of the fishing industry in Akutan.

The only private businesses other than the seafood processors are the Akutan Corporation which operates the store and the Bayview Plaza building, and the Roadhouse, a privately owned bar. The City of Akutan and the school are the major public sector employers in the community.

## Employment

One measure of a community's economic health is the percentage of its population that is employed. This measure is commonly referred to as the labor force participation rate for persons over 16 years of age. This rate includes persons employed in government, fish processing, and most other full-time occupations held by Akutan residents. The rate does not include residents employed as crew members in fish harvesting, so it understates actual labor force participation. Current detailed information on the age composition of the community (excluding processing workers) is not available, but labor force participation rates can be estimated.

Based upon information obtained during the 1985 **summer** field investigation and current school enrollments, it is estimated there are 18 children under 16 years of age in Akutan (excluding children of nonresidents). Subtracting this number from the 1985 permanent resident population of 75 people in Akutan results in a potential labor force of 57. Using a **total** of 33 persons employed in the community (25 in the community and eight with processors), the labor force participation rate for the community is approximately **58** percent. This rate is higher than the 36 percent participation rate experienced in the remainder of southwest Alaska for 1983, but lower than the 73 percent rate for the entire state.

The community is technically at **full** employment because unfilled jobs at the processing plants are available. However, responses from community residents during the 1985 field investigation indicate a number of residents will not work in the plants but **would** take other jobs if available. It is reasonable to assume that a **labor** force participation rate of 65 to 70 percent would provide full employment in the community. This would mean approximately 39 jobs (six more than at present) would have to be filled by village residents.

### Employment in Fish Harvesting

A study of development prospects for Akutan (Alaska Department of Community and Regional Affairs [ADCRA]1983:28) reviewed the involvement of the community in commercial fishing. This report stated:

\*

Ironically, in the midst of this bustling activity, Akutan itself could not be described as a fishing community. The commercial fishing boats are all transient; hailing from other ports such as Dutch Harbor, Sand Point or Seattle and only seldom do local people work onboard these fishing vessels. Akutan is virtually without port facilities and, except for a number of skiffs, lacks anything like a home fleet. The community has considered boat ownership but has rejected all proposals to date to purchase a commercial fishing vessel. At this time, no commercial fishing licenses or permits are held by Akutan residents.

Participation by residents of Akutan in commercial fish harvesting has not substantially changed since the above study was published in 1983. The findings of the study team corroborate the opinion stated in this quote. During field interviews in Akutan by the study team, individuals questioned gave varying responses in describing the current level of involvement of residents in commercial fishing activities. The comments ranged from, "They usually go out salmon fishing, but no one went this year except my husband and one other guy", to "everyone in town commercial fishes" (field interviews 1985).

Discussions with village residents did not provide an indication that anyone from the village owned or operated a commercial fishing vessel. Information from field interviews suggested that one individual in the community was registered to commercially fish in his skiff, but that he did not actually do so. One reason Akutan residents did not hold permits is they did not participate in salmon fishing before the implementation of limited entry and therefore did not obtain salmon permits. Participation in other fisheries is not limited; -however, the lack of a boat harbor and the capital to invest in equipment is another reason Akutan residents continue to participate in fisheries as crew members rather than as permit holders.

Data from the Commercial Fisheries Entry Commission (CFEC), shown in Table 4-6 suggest that some fishermen from Akutan participate in commercial fisheries as permit holders within the area. However, these data appear to be incorrect. They show permit holders residing in Akutan and fishing large (over 50 feet) king and Tanner crab vessels. Based upon village interviews, local residents of the community do not own such a vessel or vessels. The possible source of this error, according to the CFEC, is that the permit holders may be associated with one of the processing plants in Akutan and show that as the address, or

TABLE 4-6: COMMERCIAL FISHERMEN IN AKUTAN, 1977-1982

<u>Year and Number of</u>	<u>Fishermen</u> <sup>1</sup>	<u>Fishery</u> <sup>2</sup>
1982	1	Miscellaneous <b>longline</b>
	1	King <b>and</b> Tanner crab
1981	1	Halibut <b>longline</b>
	1	Tanner crab
1980	1	<b>Salmon</b> set net - Alaska Peninsula
	1	Tanner crab - trawl
1979	1	<b>Tanner</b> crab
1978	1	King crab
1977	1	King crab, shrimp - trawl

1. Numbers of fishermen are determined by those permit holders actually making landings during the specific year. The residency is determined by the CFEC to be the location given by the permit holder as their home mailing address.
2. CFEC fishery codes shown above indicate crab vessels over 50 feet in length that fished mainly in the Dutch Harbor and Bering Sea regulatory areas.

Source: Commercial Fisheries Entry Commission (1985), unpublished computer files.

that the data are incorrect. Either explanation does not further our knowledge of commercial fishing in Akutan, except to emphasize the value of field research.

Without ownership of fishing vessels by residents of the community, their participation in commercial fishing is dependent upon work as crew on vessels from other ports. The extent to which Akutan fishermen are able to obtain such employment is not precisely known. In a survey completed in 1984 (Akutan Coastal Management District 1984), eight residents stated that they worked in commercial fishing. Field data indicated that 1985 was a poor year in terms of Akutan residents obtaining crew positions, with only three persons crewing full crab seasons and two crewing on salmon boats. The study team received post-fieldwork information that five Akutan residents were working full seasons on crab vessels with several others working portions of the season in 1985-86. Given this range of participation, typical employment levels of Akutan residents as commercial fishing crew members are estimated to be five to eight full-time crab crewmen, plus additional individuals working portions of the season, and four to six people crewing during salmon season.

The best opportunities for work as crew members are on king and Tanner crab vessels and with salmon vessels owned by fishermen from other communities. Opportunities for employment as crew members on crab vessels may be fewer than in the peak years for those fisheries of 1978 to 1981. A representative of the Fishing Vessel Owners Association suggested that, with the crab fleet reduced in number from previous years, vacancies in crew positions were infrequent and vigorously sought by experienced fishermen (field interviews 1985). It is generally difficult to obtain a crew position on one of the joint venture vessels, another potential source of crew employment. Joint venture vessels use a relatively small crew, usually a skipper and three crew members. Since crew shares from joint ventures make the positions very attractive, the skippers usually have no shortage of willing crew members. Crew duties on a joint venture trawler are also more technical than working on a crab vessel, making it harder for an experienced crew member to gain a position. Despite these limitations, data available to the study team indicate that commercial fishing is important to the community as a source of employment and income.



### Employment in Fish Processing

The Trident Seafoods shore plant, the M/V Akutan owned by **Seawest Industries**, and the M/V Deep Sea owned by Deep Sea Fisheries are the main processing plants in **Akutan**. Depending upon the season, other floating processors may operate in Akutan Harbor for periods of time; however, they have less of an impact on the community than the three processors listed above.

The M/V Akutan is a floating processor owned by Seawest Industries, Inc. It is currently being leased and operated by Pelican Seafoods, Inc. The vessel operates six to seven months per year, processing mostly king and Tanner crab. The total staff for the plant ranges from 40 to 50 workers with approximately 35 processing workers. The M/V Akutan occasionally employs local residents as part of their work force; however, representatives of the company were unable to provide figures on either the number of **local** workers or the total wages paid. One individual in the community indicated that **only** one Akutan resident had worked on the M/V Akutan in the last two years (field interviews 1985).

The M/V Deep Sea is another floating processor which employs **local** processing workers. The total processing employment on the Deep Sea is estimated to be 30 workers. Both the Deep Sea and the Akutan have a **local** hire relationship with the community that goes back many years to when **Lowell Wakefield** first began processing king crab in the area around 1947. The first crews for the Deep Sea were **local** residents, and the relationship has existed from that time on. Data on the proportion of total employment who are local residents were not available to the study team.

Trident Seafoods has a shore plant in Akutan. The **plant** has been rebuilt recently after being almost totally destroyed by fire. The estimated average number of processing workers in the plant is 160 (field interviews 1985). The actual number of workers in the plant at any particular time is dependent upon fishing activity and other factors. As of October 1985, there were 104 hourly workers and 25 salaried employees. At other times of the year, the number of hourly workers can increase to 180 to 200. Data on the employment and income for local processing workers were not available to the study team. However, a representative of the company indicated they had hired very few local residents

despite a strong interest in doing so (field interviews 1985). Local comments concerning the Trident plant confirmed that few local residents worked there, such as, "Nobody anymore works for Trident. I don't know why."

In the 1984 survey (**Akutan** Coastal Management District 1984), eight respondents (all permanent residents) listed their occupation as processing workers. Comments from field interviews with respect to the number of local workers included: "job openings at the processors all the time but locals don't want to work there"....."Deep Sea hired from the village, five or six people worked about three or four days" . . . ."I worked 10 years on the M/V Akutan for Seawest. After not working there for five years, I tried to work there again but couldn't stand it anymore" . . . ."most locals work at Deep Sea - about six or seven workers"....."if the crab come back, the locals will work for processors" (field interviews 1985). From the information available, eight workers is a reasonable estimate of the number of local residents who participate in fish processing.

#### Other Industry

The following discussion focuses upon those individuals who are long-term community residents. Temporary and transient workers at local processing plants are not considered.

Field interviews conducted in 1985 indicated a shift away from processors as major employers to the City of Akutan and the village corporation. Two causes for this change were identified: 1) the local institutions are more flexible in employment conditions and are setting new standards and a new work ethic; and 2) as participation in processing becomes more sporadic and less profitable, the inconveniences it imposes (schedules, rigor) become less worthwhile.

Table 4-7 presents information on employment by job in Akutan for 1978 and 1985, excluding fish processing. The city, school, and village corporation represent major non-fish processing employers during 1985. The number of jobs available in Akutan (25) has doubled during the last seven years and almost half (12) of the present 25 jobs are with entities that did not exist or have employees in earlier years. If jobs with these recently emerging organizations

TABLE 4-7: RESIDENT EMPLOYMENT IN THE COMMUNITY OF AKUTAN<sup>1</sup>

	Number of Jobs in Community <u>1978</u> <sup>(2)</sup>	Percent of Total Employment <u>1978</u>	Number of Jobs in Community <u>1985</u>	Percent of Total Employment <u>1985</u>
School	2-4	25.0	2	8
Post Office	1	8.3	1	4
Tavern	3	25.0	3	12
Telephone Operation	3	25.0	1	4
Akutan Corporation	0	0.0	4	16
Store	1	8.3	1 <sup>(3)</sup>	4
City	0	0.0	8	32
A/PIA	<u>1</u>	<u>8.3</u>	<u>5</u>	<u>20</u>
Total	11-13	100.0	25	100

1. Does not include fish processing.
2. Other fishery and various part-time temporary jobs exist in the community but are not included in these classifications.
3. In 1985, the store was operated by the Akutan Corporation. Therefore the store employee is actually a corporation employee. The study team was unable to determine whether or not the store was managed by the Akutan Corporation in 1978.

Sources: Arctic Environmental Information and Data Center, University of Alaska (1978a), Akutan. Field interviews (1985).

were not available, there would be 13 jobs in the community, roughly the same number as existed in 1978.

### Income and Expenditures

This section discusses income and expenditures for major community organizations. The private sector is presented first, then the public sector and, finally, individual households. The information presented here is from Table A-1.

Table A-1 in Appendix A identifies major sources of community income and describes transactions between organizations and households in order to understand the possible range of community response to external stimuli such as OCS activities. Major sectors within the local economy were identified and, where possible, the flow of funds between various sectors was traced. It should be emphasized that these results provide relative, not specific, measures of the economic linkages within Akutan. In many cases, data from different sources did not agree. Some data sources were not available and, consequently, closure of the economic system for the community was not possible. As a result, totals are not in balance and all expenditures could not be identified.

Data on income sources and transfers were obtained for fiscal year (FY) 1984 when possible; details on financial transactions for programs and operating budgets are shown for that year. Certain funding sources, especially state capital grants, are displayed for several time periods to indicate the magnitude of capital funds and subsequent dependence of local economies on these sources. Analysis of these flows is limited to FY 1984, when possible.

### Private Sector

Table 4-8 summarizes private sector expenditure data from Table A--I. It presents estimates of geographic **distribution** for these expenditures.

TABLE 4-8: AKUTAN PRIVATE SECTOR SUMMARY

<u>Organization</u>	<u>Total Funds</u> <sup>1</sup>	<u>Contribution to Local Economy</u> <sup>2</sup>	<u>Expenditures Outside of Community</u>
Akutan Corporation	\$357,000	\$129,000	\$228,000
Aleut Corporation	NA	8,600	NA
Bar	100,000	20,000	80,000
Processors	<u>22,400,000</u>	<u>267,000</u>	<u>22,133,000</u>
TOTAL	\$22,544,300	\$424,600	\$22,441,000

NA: Not available

1. Estimated **sales**, revenues, or other income to the organization.
2. Payments for salaries to local residents, utilities.

Source: Patrick Burden & Associates, estimates (1985).

### Income and Expenditures in the Fishing Sector

The field researchers did not obtain income data from any residents who participated in commercial fishing, therefore no data are available to document their earnings from those activities.

According to field interviews, expenditures by non-local fishermen in Akutan were limited to expenditures at the bar, with occasional purchases from the store for miscellaneous items.

### Income and Expenditures in the Processing Sector

The amount of total wages paid to local workers cannot be determined from the data available. One individual informed the study team that eight local workers were employed in 1984 for a minimum of two weeks to a maximum of three months. At a wage of \$5.00 per hour, it is clear that processing wages to the local residents total only relatively minor amounts (an estimated annual average of \$2,160 per worker), and were substantially less than the Unalaska census subarea average annual processing worker's income of \$17,000 per worker.

As described earlier, most of the processing workers come to Akutan from other areas to work seasonally in the processing plants. Typically, the processing company provides room and board for its workers. Thus, workers' expenditures are limited to the amount spent for entertainment in the bar and occasional purchases from the store for miscellaneous items. According to field interviews with residents of Akutan, processing workers are regular patrons at the bar and account for a large portion of the revenue taken in by that enterprise.

The scale of the fish processing industry is many times larger than the remainder of the private sector. Fish processing accounts for over 99 percent of total economic activity in the community, but very little of the \$22.4 million resulting from sales goes to the community. Industry linkages to the village of Akutan are primarily limited to raw fish taxes at state and local levels, wages for an estimated eight residents, and sales to processing employees at the local store and bar.

Assuming these fairly simple economic linkages between the fish processing industry and Akutan continue at existing levels, substantial increases in fish processing activity will have a nominal effect on the local economy. Increased receipts from fish taxes will be small and sales at local businesses are not likely to increase faster than the level of processing activity. An exception could result if a larger percentage of community residents took jobs in processing plants.

#### Other Industry

This section briefly describes other private sector components and their contribution to the local economy. Additional information on the village corporation and city government can be found in Political Systems.

The Akutan Corporation. The Akutan Corporation is Akutan's village corporation, formed under the Alaska Native Claims Settlement Act (ANCSA). The firm's asset base includes land in Akutan, operation of a leased village store and the Bayview Plaza building in Akutan, and various financial investments.

Wages and salaries paid in Akutan totaled \$42,000 for the period ending June 30, 1984. This amount was paid directly to community households. Administration and other expenses totaled about \$156,000 with 10 percent spent locally and 90 percent directed outside the community. The store's cost of sales for goods and services (including freight) purchased outside of Akutan was \$128,000.

The Akutan Corporation is the second largest private sector component in the local economy. It receives a major amount of its income from store sales and leases to the City of Akutan and the Trident processing plant. Total income to the corporation is only 1.5 percent of total fish processing value, but its contribution to the local economy as a percent of total income is significantly larger. Approximately 36 percent (\$129,000) of the corporation's total income is spent locally on salaries, utilities, and other expenditures. An increase in income to the Akutan Corporation would have a much larger effect on the community than a similar revenue increase to fish processors.

The Aleut Corporation. The Aleut Corporation is the area's regional ANCSA corporation. In FY 1984, it paid \$115 in dividends for each original 100 shares of stock held. Akutan households received an estimated \$8,600. The Aleut Corporation contributes a minor amount of income to the community from corporate dividends. Increased corporate profits are not expected to generate significant increases in the local economy.

Roadhouse. The local bar is patronized by permanent residents and workers at local processing plants. Estimated revenues are in excess of \$100,000 per year. The Roadhouse offers employment to two bartenders, in addition to the manager's income. The business is patronized by local residents and processing employees. Increases in fish processing employment would result in additional income to the proprietor and potentially increased employment to local residents, but the overall effect would be relatively low.

## Public Sector

### Federal

Appropriations. Akutan did not receive federal grants for the period discussed, according to information from State Office of Management and Budget (OMB) reports and City of Akutan financial statements.

Social Service Programs. Akutan residents received about \$53,000 in social service money for FY 1984. Most of these payments, which include such programs as Social Security, veteran's benefits, Medicare, and educational funds, went directly to area households. Approximately 53 percent of this money went to medical facilities (such as the Alaska Native Hospital in Anchorage), the Aleutian Region School District, and Aleutian Housing Authority (AHA) for low income housing programs.

Revenue Sharing. Akutan did not apply for, and did not receive, federal revenue sharing funds according to federal records and city officials.

Housing. Akutan received about \$1.1 million of federal housing funds in 1983, primarily through Housing and Urban Development (HUD) programs. Funds were directed from HUD through AHA for construction of 16 new homes, completed by FY 1984.



State

Capital Funds. Akutan received a significant amount of state capital grant funds during the period FY 1981 to FY 1986. Grants were directed at building infrastructure, especially airport improvements and dock site development.

The Alaska Power Authority (APA) provided \$500,000 for community electrification and \$127,000 for plant operations. Akutan originally anticipated hydropower generation but preliminary engineering studies suggested this was not feasible. A new generating plant was purchased and community distribution lines were upgraded and expanded to connect new housing. In addition, \$157,000 in funds from ADCRA's bulk fuel program were directed to the City of Akutan for bulk fuel storage facilities.

Akutan also received a \$600,000 state grant for school construction during FY 1986. Work was being performed during the project field phase. Grant funds went to the Aleutian rural education attendance area (REAA) and were administered by them.

Social Services. State social service money for Akutan is estimated at \$32,000 for such programs as Longevity Bonus, energy assistance, and Aid to Families with Dependent Children (AFDC). A majority of this money went directly to Akutan households. The state provides social service assistance through a local fee agent and a social worker at Unalaska. A/PIA also provides social worker services from its Anchorage office.

Education. In addition to the school grant discussed above, the state provided about \$211,000 for Akutan school salaries, utilities and supplies through the REAA.

Revenue Sharing. Three state programs (Fish Tax, Municipal Assistance, and State Revenue Sharing) provided about \$158,000 to Akutan. All monies went to the City of Akutan.

Other. Other state funds include Coastal Zone Management (CZM) funds of (\$21,000) and a direct municipal grant of \$44,535. The City of Akutan was the recipient for both of these ADCRA programs.

Local

Aleutian /Pribilof Islands Association. The A/PIA is headquartered in Anchorage and distributes its services to 11 communities within the region, including all three project cities. AHA administered construction of Akutan's 16 HUD houses in 1983, an estimated total cost of \$1.1 million.

The budget for A/PIA expenditures in Akutan is difficult to estimate, given the number of programs they administer and limited public information. Estimates suggest \$60,000 is spent in Akutan on social services, employment and training, medical services such as health aides, village public safety officer (VPSO), a summer youth employment project, and a home weatherization program.

School District. Akutan is part of the Aleutian Region School District, headquartered in Anchorage. The city had 11 students in 1984; the district had a total of 101 students. Pro-rata estimates of Akutan's operating funds place annual expenditures at \$211,000 for wages and supplies. About 70 percent of this amount went to community households (including teachers who are not permanent residents), an additional three percent went to the city for utilities, an equal amount was paid to the Akutan Corporation for supplies, and the remainder was spent outside the community (24 percent).

The current school project, costing \$600,000, will place about \$100,000 in the local community, consisting of \$78,000 for labor and the rest for utilities, supplies, and housing.

City of Akutan. The City of Akutan administered the following four major projects in FY 1984 according to field notes and city financial statements:

o seaplane ramp:	\$325,000
o solid waste:	\$50,000
o electrification:	\$50,000"
o bulk fuel:	\$157,000

Approximately \$150,000 of these funds was spent during FY 1984, principally for project design, state agency overhead, and other **pre-construction** activities. FY 1985 will see further expenditures with the onset of construction.

**Total** city expenditures for FY 1984 were \$525,600, according to compiled financial statements. Of this **total**, about 24 percent was paid to the **Akutan** Corporation for rent, utilities, and a land lease. Households received 31 percent of city expenditures as wages and salaries while an amount estimated at 44 percent of **all** expenditures flowed outside the community for services and supplies.

Table 4-9 summarizes known public sector program expenditures for FY 1984. The information suggests the economic **role of** each organization on a relative basis **only**. Information has been adjusted to show the fund sources at the community level. For example, federal funds received by the City of **Akutan** are included in the total funds for the city, and are not shown in federal expenditures. Federal and state funds discussed **below** are principally those monies which flow directly to households. (Additional detail is provided in Table A-1.)

The City of **Akutan** is the major source of **public** sector funds in the community, accounting for slightly more than 45 percent (\$526,000) of total program funds. More than half (56 percent) of the city's funds go to local households for wages and salaries and to the Akutan Corporation for leases and supplies. The City of **Akutan** contributes more to the local economy than fish processing which is the largest private sector unit.

Increased revenues to the city could result in substantial contributions to the local economy, but the probability of increased revenues from major sources is **uncertain**. The city receives **\$103,000** in taxes from \$22.4 million in fish processing sales, but major increases in production are not anticipated. State and **federal overall budgets are** anticipated to decline although certain budgets may be increased. The overall effect on Akutan is expected to be minimal. Capital construction funds which have provided employment and wages for several years will be funded at very low levels in the future. This will eliminate most of the part-time and associated seasonal employment.

TABLE 4-9: AKUTAN PUBLIC SECTOR SUMMARY

<u>Organization</u>	<u>Contribution to Local Program Funds</u>	<u>Expenditures Outside of Economy</u>	<u>Community</u>
Federal	\$53,000	\$40,000	\$13,000
State	291,000	237,000	54,000
City of Akutan	526,000	296,000	230,000
School District	211,000	154,000	57,000
A/PIA	<u>71,000</u>	<u>60,000</u>	<u>11,000</u>
TOTAL	\$1,152,000	\$787,000	\$365,000

Source: Patrick Burden & Associates, estimates (1985).

The State of Alaska provides limited funds to residents of **Akutan**. Approximately \$19,000 was identified going into the community, with most of these funds going directly to households. These funds are from various public assistance programs including the energy assistance program. Most of these programs (e.g., food stamps, **AFDC**, Longevity Bonus) are not subject to significant budgetary cutbacks but the energy assistance program (which contributes \$13,000 of the \$19,000) may be reduced in the forthcoming legislative session.

The state's contribution to the local economy is substantially larger than these figures indicate. Alaska provides about half of the estimated FY 1984 operating funds available to **Akutan**. In addition, state capital grants and appropriations for the period FY 1981 to FY 1986 comprised about 75 percent of all public monies available to the city.

Federal funds are primarily long-term public assistance programs (e.g., Retirement Insurance, Survivors Insurance, Medicare) which are relatively immune to reductions. The age cohort structure of the community indicates that funds from these federal (and related state) programs will increase in the future. The effect of these programs is larger than the total dollar amount indicates since most of the funds go directly to households and are then spent in the community.

The Aleutian Region **School** District is the third largest economic entity in **Akutan's** public sector. Most of the funds are for wages and salaries paid to local residents (including school teachers), with some expenditures for locally purchased supplies and materials. The present number of preschool age children indicates that an additional teaching position will be required in the future. This will result in additional funds being directed into the community for teacher's salaries and possibly for teachers' aides.

**A/PIA** provides a number of social service and housing programs for **Akutan** residents, but the majority of annual funds contributed to the local economy are wages and salaries for one **VPSO**, a community health aide (**CHA**), and a community health representative (**CHR**). Other **A/PIA** programs are weatherization and a summer youth program. The HUD housing program administered by **AHA** has also resulted in a number of jobs for local residents. Some of these programs

are among those most subject to budget reductions. It is anticipated that the amount of funds contributed to Akutan by A/PIA will decline in the near term, although the level of such a decrease is unknown.

### Household Expenditures

Community residents were hesitant to divulge personal income data that would permit calculation of average income statistics. However, information was obtained for wages and salaries paid by the City of Akutan and the Akutan Corporation, the two major employers of permanent residents. The average salary for city employees is \$1,200 per month. Full-time corporation employees receive approximately \$1,000 per month. The average wage for all process workers is approximately \$1,400 per month; however, Akutan residents' income from fish processing employment averages much lower because they only work sporadically. Average household income for Akutan residents is estimated at \$900 per month.

Interviews with Akutan residents during the 1985 field investigation form the basis of household expense data. Estimated expenditures by major category are presented in Table 4-10. Akutan households spent about \$291,600 in FY 1984, according to these figures. About 33 percent was spent on food (\$97,200) with the majority of this category (\$94,200) spent locally at the Akutan Corporation store. An estimated \$3,000 of food expenditures was spent outside of the community, either in Anchorage or Seattle. Another 19 percent of average monthly expenditures was spent on utilities owned by the City of Akutan. A more detailed discussion of household expenditure data is presented under Patterns of Household Economy below.

### Summary of Trends and Anticipated Developments in the Local Economy

The following paragraphs describe a possible scenario for the existing economic structure of Akutan, and discuss the implications of this scenario on the community. Developing scenarios for other economic structures, including those derived from possible OCS exploration and development, is not attempted here.

TABLE 4-10: AVERAGE MONTHLY HOUSEHOLD EXPENDITURES IN AKUTAN

<u>Expense Category</u>	<u>Average Monthly Expenditure</u>	<u>Percent of Total Expenditures</u>
Food	\$300	33%
Utilities	171	19
Housing	79	9
Other	<u>350</u>	<u>39</u>
TOTAL	\$900	1 00%

Source: Field interviews (1985).

The growth of the fishing industry in the region was based, first, on king and then Tanner crab. Since 1981, populations of both species have been at very low levels. The future of the king and Tanner crab fisheries will have a great impact on the amount of fishing activity in and around Akutan. At present, biologists are not able to predict when crab resources will recover. There are some signs that future year classes of crab are indicating greater possible harvest levels, but it is uncertain that the fishery will ever reach the peak harvest levels of 1979 to 1981.

The processing industry in Akutan provides a major source of tax revenue for the community, as well as a source of employment for local processing workers. Any changes in the processing industry will have immediate impact on the community. The M/V Akutan, which is owned and has been operated by Seawest in the past, is currently being leased and operated by Pelican Seafoods, a subsidiary of **ConAgra** Corporation. Several residents expressed concern over continued plant operation, noting rumors of Seawest's financial difficulty. Operation of the plant by a large multinational corporation such as **ConAgra** may add support for continued operation of the M/V Akutan.

The Trident Seafoods processing plant contributes a large part of the total fish tax revenue to the City of Akutan. It also provides a potential for processing work for the local residents, even though they have not taken advantage of that potential to date. Given the financial success of shore plants in the region in recent years, continued viability of the Trident operation is important to the community. If floating processors anticipate greater success in another location, they have the capability to leave Akutan Harbor, removing themselves from Akutan's tax base.

Trident Seafoods is currently processing crab and Pacific cod and is equipping the plant to process **pollock** fillets. If successful, expanding into **pollock** processing will extend the length of the facility's operating season and add to the probability of long term stability of the company.

The two **surimi** plants which are being or are proposed to be built at Dutch Harbor could have an impact on local residents. The two firms will require about 237 permanent, year-round employees for relatively skilled positions.



The full-time permanent nature of these jobs makes them different from typical part-time, seasonal jobs with other processing plants and, as a result, these jobs may be more attractive to residents of the region. Some individuals in Akutan may migrate (or commute on a weekly basis) to take these jobs.

Floating processing ships have less impact, and less of a potential benefit, to the community of Akutan than shore based plants. Floating processors move to the most opportune fishing locations. Their mobile style of operation lessens the potential for employing local workers from Akutan and also makes it difficult for the city to collect fish taxes. The greatest future benefit to the community is likely to come from shore based and semi-permanently moored processors.

The anticipated trend of slight increases in fish harvesting and processing activities suggests that fish tax revenues to the City of Akutan are unlikely to increase significantly. A 20 percent increase in the value of fish produced in Akutan Harbor would result in approximately \$25,000 in additional city revenues, or about five percent of total 1984 revenues. Required employment levels at local processing plants should remain stable given the modest increases projected for fish processing. Employment of Akutan residents will depend upon the residents' desire to work rather than limited employment opportunities.

State capital grants and other major appropriations have provided local employment through projects such as the new school and community electrification. This level of funding is expected to diminish as world oil prices and state revenues drop. Other state and federal funds are anticipated to decline slightly, with the exception of education support.

As a result of these reductions in community income, employment is expected to decline. Funds should be available to support existing full-time and year-round jobs in city government, the village corporation, and the school, but many part-time and seasonal jobs (e.g., construction) will be eliminated.

Due to this event, it is anticipated that affected residents would: 1) increase subsistence activities; 2) seek additional public assistance funds; 3)

seek employment at local processing plants; 4) migrate from **Akutan** to seek employment elsewhere; or 5) some combination of the above.

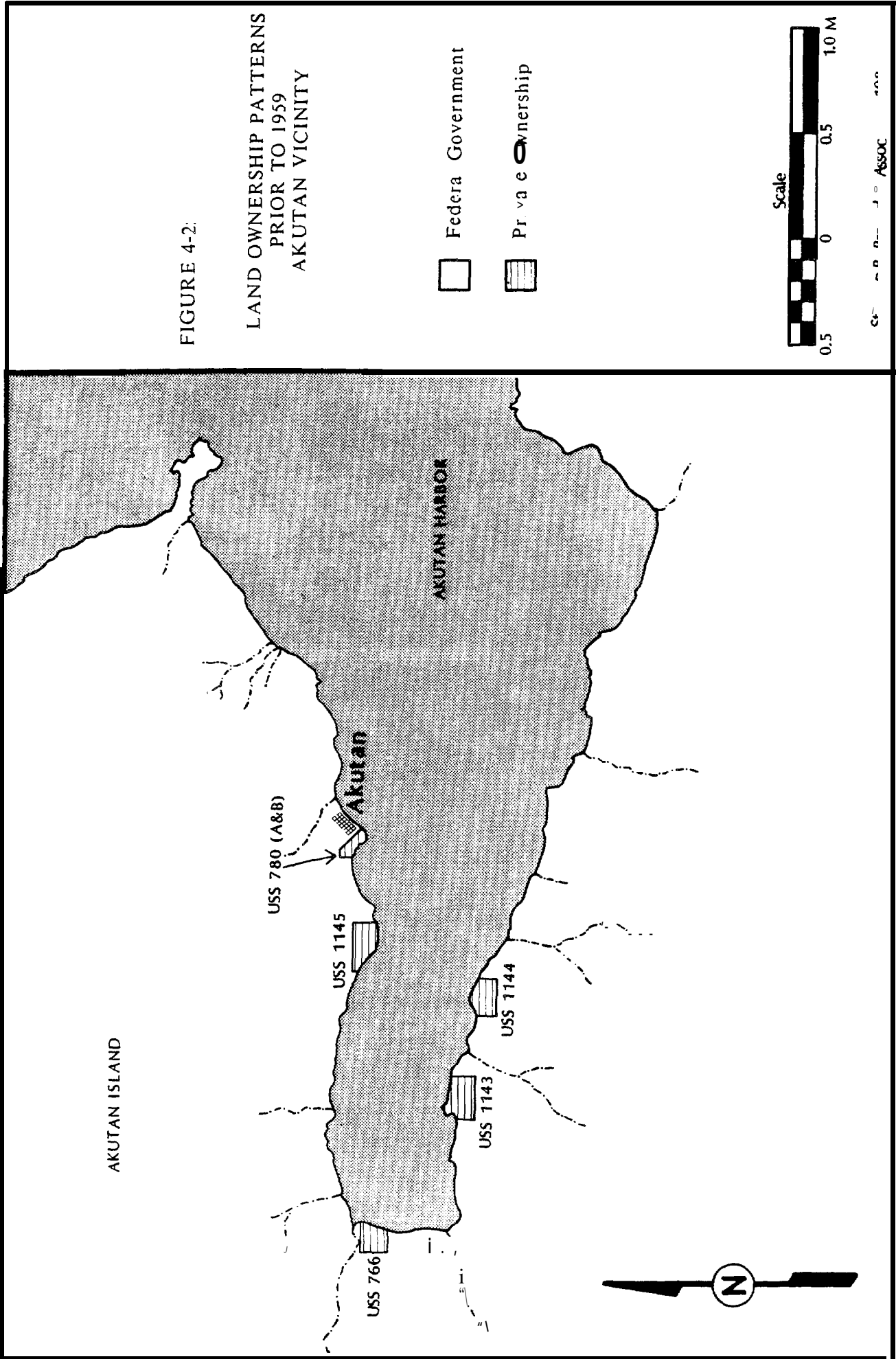
## LAND USE AND HOUSING

### Land Ownership

From the United States purchase of Alaska from Russia to the present, Akutan's history of land ownership patterns is relatively uncomplicated. Prior to the 1959 Statehood Act, only **five** parcels of land were **in** private ownership (Figure 4-2). The earliest, **United States Survey (USS) 780**, is the **Russian-Greek Mission** Reserve and the present **site** of the Russian Orthodox Church. Surveyed in 1907, **this** site then transferred to the Russian Orthodox Church. The remaining four parcels were transferred under the auspices of the Soldier's Additional Homestead **Claim** Act of 1 **895**. The **Bering** Sea Commercial Company acquired USS 766 **in** 1911. The other three parcels, USS 1143, USS 1144, and USS 1145, were acquired by the Alaska Whaling Company **in** 1913. Parcel USS 1143 housed the whaling station on **Akutan** Island.

As a result of the Statehood Act of 1959, the tidelands, uplands, and water rights, as well as all **Native** school lands (USS 2014, Lot 1), were transferred from the federal government to the state of Alaska for management. Because the **Bering** Sea Commercial Company abandoned USS 766, the state declared **this** land to be part of the State of Alaska uplands. Further conveyances of land **in** Akutan were held **in** abeyance pending the outcome of the Alaska Natives' **claim** to lands.

In 1971 ANCSA was passed and, **with** the exception of land patented prior to statehood (USS 780, USS 1143, USS 1144, and USS 1145) and those lands acquired by the state under the Statehood Act of 1959 (USS 766, USS 2014, tidelands and uplands), all land in the Akutan area was available for selection from the federal government. The two **Native** organizations **eligible** for selections in the Akutan area were the **Aleut** Corporation (subsurface rights) and the **Akutan** Corporation. **Figure 4-3** shows the general boundaries of **village** corporation lands. Under ANCSA, the Akutan Corporation became a major landholder **in** the



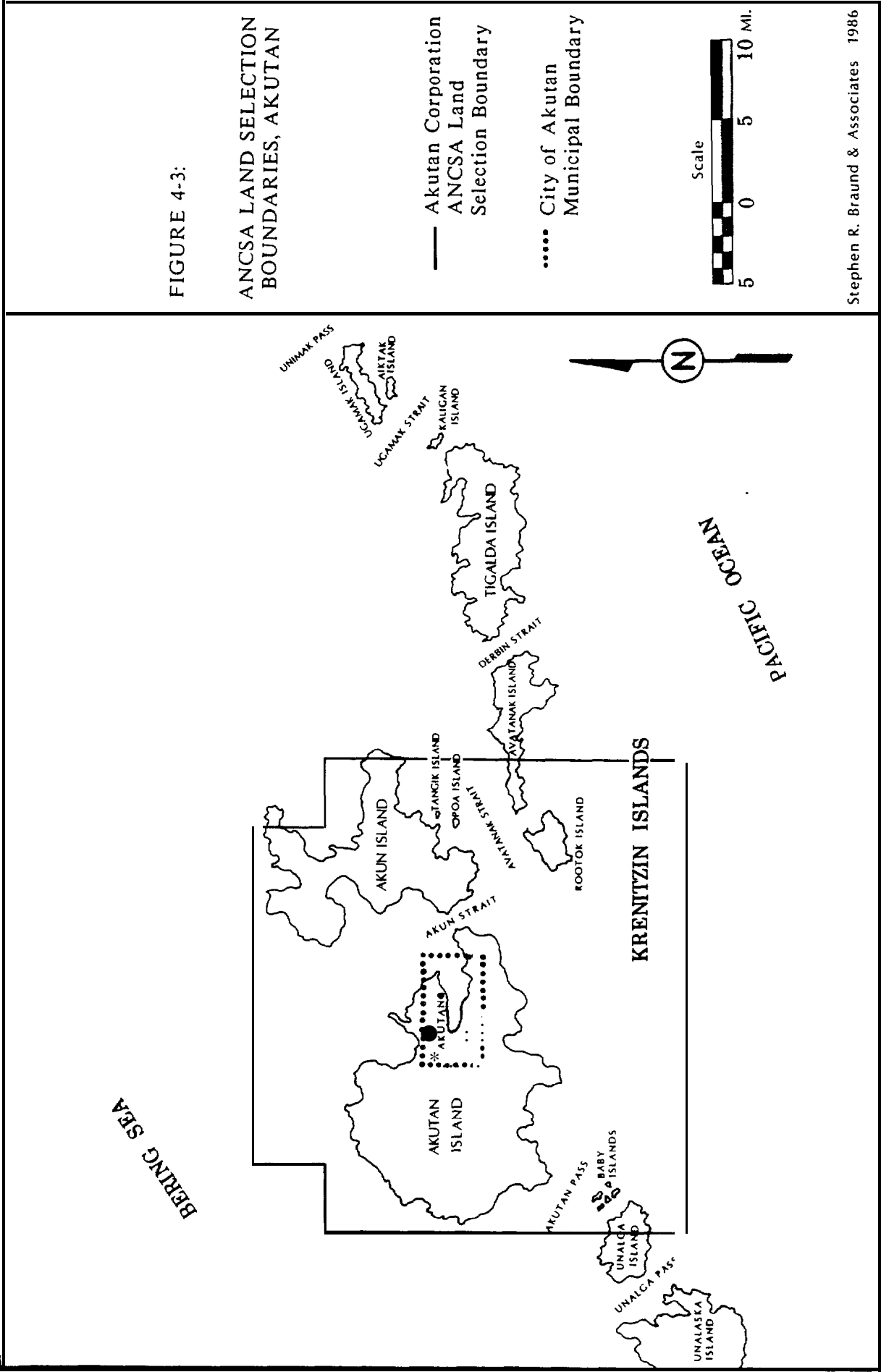
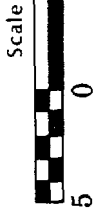


FIGURE 4-3:

**ANCSA LAND SELECTION BOUNDARIES, AKUTAN**

- Akutan Corporation ANCSA Land Selection Boundary
- ..... City of Akutan Municipal Boundary



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area with 92,160 acres of land selections. The lands selected by the Akutan Corporation include portions of Akutan, Rootok, Baby, Tangik, and Poa islands, the greater part of Akun Island, and portions of Avatanak and Unalga islands (subsurface rights to these lands have been retained by the Aleut Corporation). All lands in excess of 92,160 acres are designated as national wildlife refuges and easements; as such, they are owned and managed by the federal government. By 1983, 89,773 of these acres had been conveyed and no additional acreage has been conveyed since then. Some lands in and around Akutan have been conveyed from the corporation to other landowners including the City of Akutan and private individuals (Figure 4-4).

The incorporated boundaries of the second class City of Akutan encompass Akutan Harbor and its uplands for an area of approximately 18 square miles (Figure 4-3). In accordance with Section 14(c)(3) of ANCSA, the City of Akutan is in the process of selecting its entitlement of up to 1,280 acres for reconveyance. Upon conveyance, the City of Akutan will become the second largest holder of land on Akutan Island. By August of 1985, the Akutan Corporation had conveyed approximately 391 acres to the City of Akutan including lands both within and outside the community.

Lands conveyed outside the community include (Figure 4-4):

- o A 370 acre parcel located between the present Trident Seafood site (USS 1145) and the head of the harbor for a potential hydroelectric project. (See discussion under Community Facilities and Services.)
- o A 20 acre parcel located between the Seawest site (USS 780) and the Trident Seafood site for a seaplane landing ramp area and other future development.

The village corporation has conveyed the following lands to the City of Akutan within the immediate community (Figure 4-5):

- o A 5,477 square foot tract in Akutan Harbor Subdivision #2, originally owned by a resident and deeded to the city for the clinic and recreation center.
- o A 4,913 square foot tract in Akutan Harbor Subdivision #2 for the public safety building.
- o A 1,234 square foot tract in Akutan Subdivision #1 for fire equipment storage.

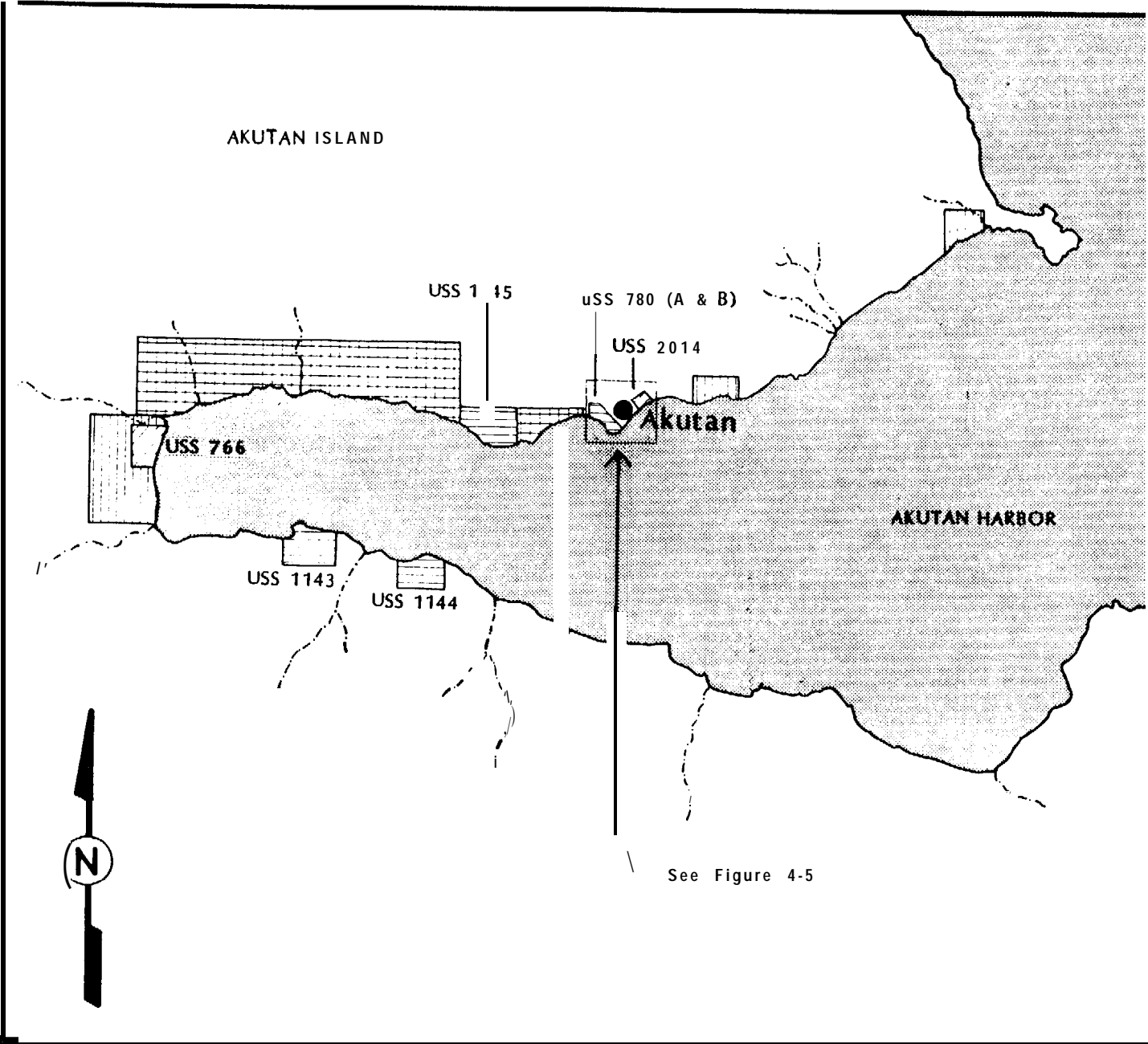
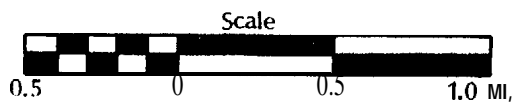


FIGURE 4-4:  
LAND OWNERSHIP PATTERNS  
AKUTAN VICINITY, 1985

- 1 Akutan Corporation
- City of Akutan
- City of Akutan (not yet conveyed)
- Private
- State



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FIGURE 4.5:

LAND OWNERSHIP  
PATTERNS  
AKUTAN, 1985

•1 Akutan Corporation

▣ Russian Orthodox Church

▣ State of Alaska

Lands conveyed from Akutan Corporation to:

C1 Aleutian Housing Authority  
(originally conveyed to individuals)

▣ City of Akutan

▣ Individuals

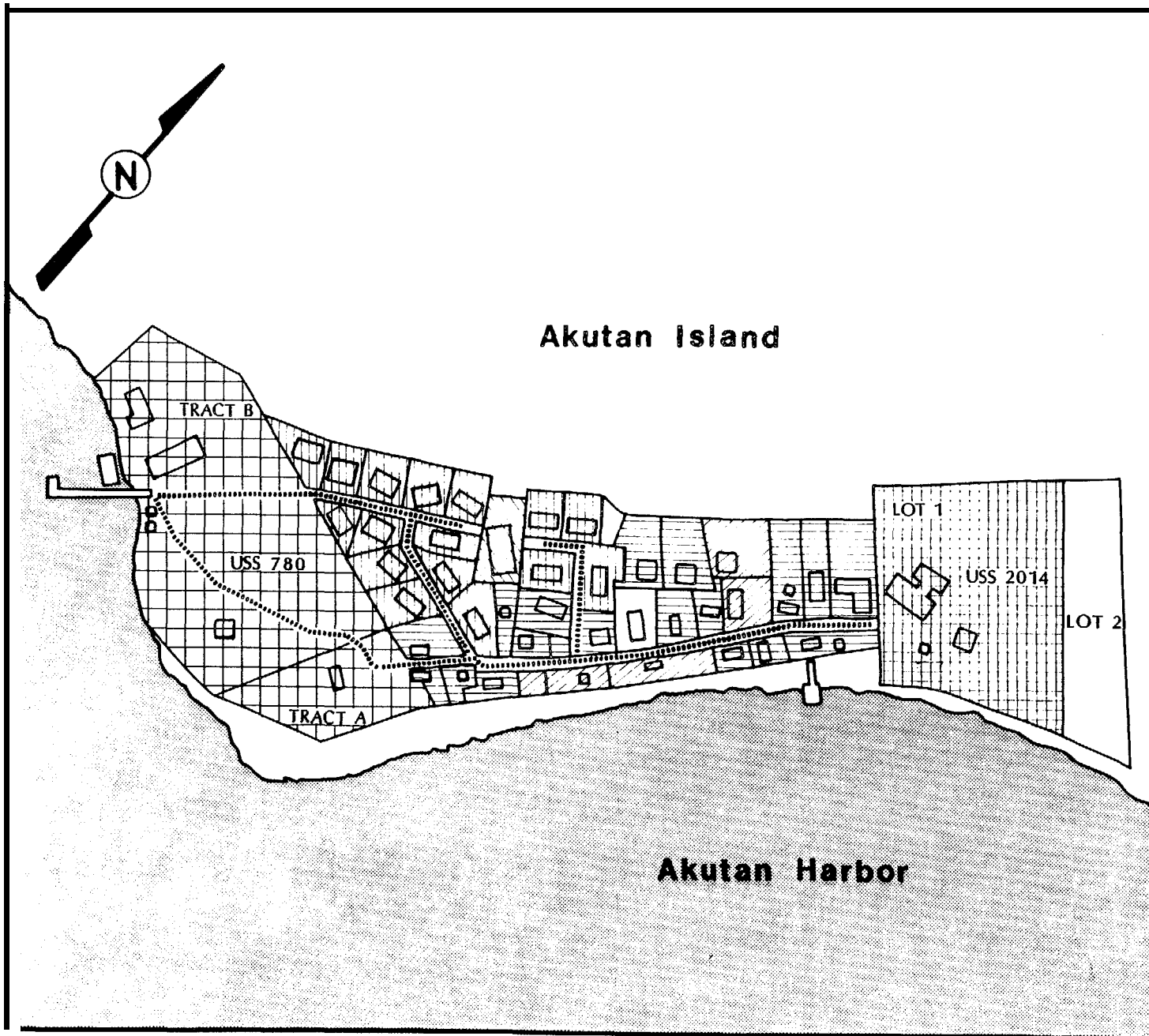
▣ Seawest

Scale



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Tentative selections for conveyance to the City of Akutan total approximately 60 acres and include the following:

- o Twenty acres at the head of the harbor for a potential “world class” processing facility surrounding USS 766 (Figure 4-4).
- o Solid waste disposal site (Figure 4-4).
- o Small boat harbor site (Figure 4-4).
- o Watershed rights 100 feet on either side of streams flowing into Akutan Harbor for industrial, public, and developmental use (Figure 4-4).
- o General utility easements in the new subdivision and boardwalks in the community (Figure 4-5).

The corporation has also conveyed the following lands within the immediate community (Figure 4-5) to other groups and individuals:

- o Approximately 2.33 acres to AHA for the recent housing project; sixteen residential units on lots ranging between 5,055 and 7,023 square feet each were completed in 1983. AHA has sold all of the units to Akutan residents and will hold the warranty deed until the mortgages are paid. Further discussion of these units is found in Housing.
- o Sixteen tracts, ranging from 1,721 to 6,201 square feet each, in the Akutan Harbor Subdivision #1 to individual residents.
- o A 5,304 square foot tract, Akutan Harbor Subdivision #2, was deeded to a private individual and later **re-sold** to another Akutan resident.

Lands unaffected by ANCSA include state lands and land patented prior to 1959. The state still retains title to USS 766, the majority of the tidelands and water rights (see Land Use), and the land on which the school is built; this totals approximately 40 acres. Lands patented prior to 1959 include USS 780 (A & B), USS 1143, USS 1144, and USS 1145 (totaling approximately 42 acres) and are critical to the development of Akutan as little private developable land within Akutan Harbor is available for enhancing the local tax base through its development.

As mentioned above, USS 766 (5.96 acres at the head of the harbor originally patented to and later abandoned by the Bering Sea Commercial Company) was



appropriated by the State of Alaska at statehood. A non-local resident obtained this parcel in 1972; however, this land reverted back to the state when that auction was declared invalid following ANCSA (Alaska Department of Natural Resources [ADNR] 1985). Deep Sea Fisheries filed a sale application with ADNR in 1976 and the Akutan Corporation filed a sale application in 1980. No action has been taken on these sale applications and this tract is still owned by the state. Additional discussion related to this parcel is located in Future and Planned Development.

USS 780, originally designated as the Russian Creek Mission Reserve in 1907, is a 3.51 acre property subdivided into two tracts and owned by the Russian Orthodox Church. Bordering the western end of the community, Tract A (0.76 acres) contains the church and cemetery. Tract B (2.75 acres) has been leased to various seafood processors and the City of Akutan since 1968 (see Land Use).

Non-contiguous tracts USS 1143, USS 1144, and USS 1145 were patented to the Alaska Whaling Company in 1913 and contain 12.20 acres, 12.98 acres, and 12.95 acres respectively. These lots were bought by an individual living out of state in the 1960s and have been leased to various seafood processors since that time. Further discussion is found in Commercial Land Use.





USS 2014 (Figure 4-5) represents a 2.62 acre tract originally owned by the federal government and managed by the Bureau of Indian Affairs (BIA). Lot 1 consists of 1.68 acres which were quit claim deeded from the BIA to the State of Alaska in 1966 for the Akutan school. The state is, however, systematically deeding school land to either the local school districts or Native corporations throughout the region and this tract is expected to be deeded to either the village corporation or the Aleutian Region School District at some future date (BIA, personal communication). BIA deeded vacant Lot 2 (0.89 acres) and Lot 3 (0.05 acres) to Akutan Corporation in 1977 as this agency was divesting itself of land.

#### Land Use

Figure 4-6 is a detailed representation of current land use in the village of Akutan. With the exception of uses occurring on USS 1143, USS 1144, and USS

FIGURE 4-6:

LAND USE PATTERNS  
AKUTAN, 1985

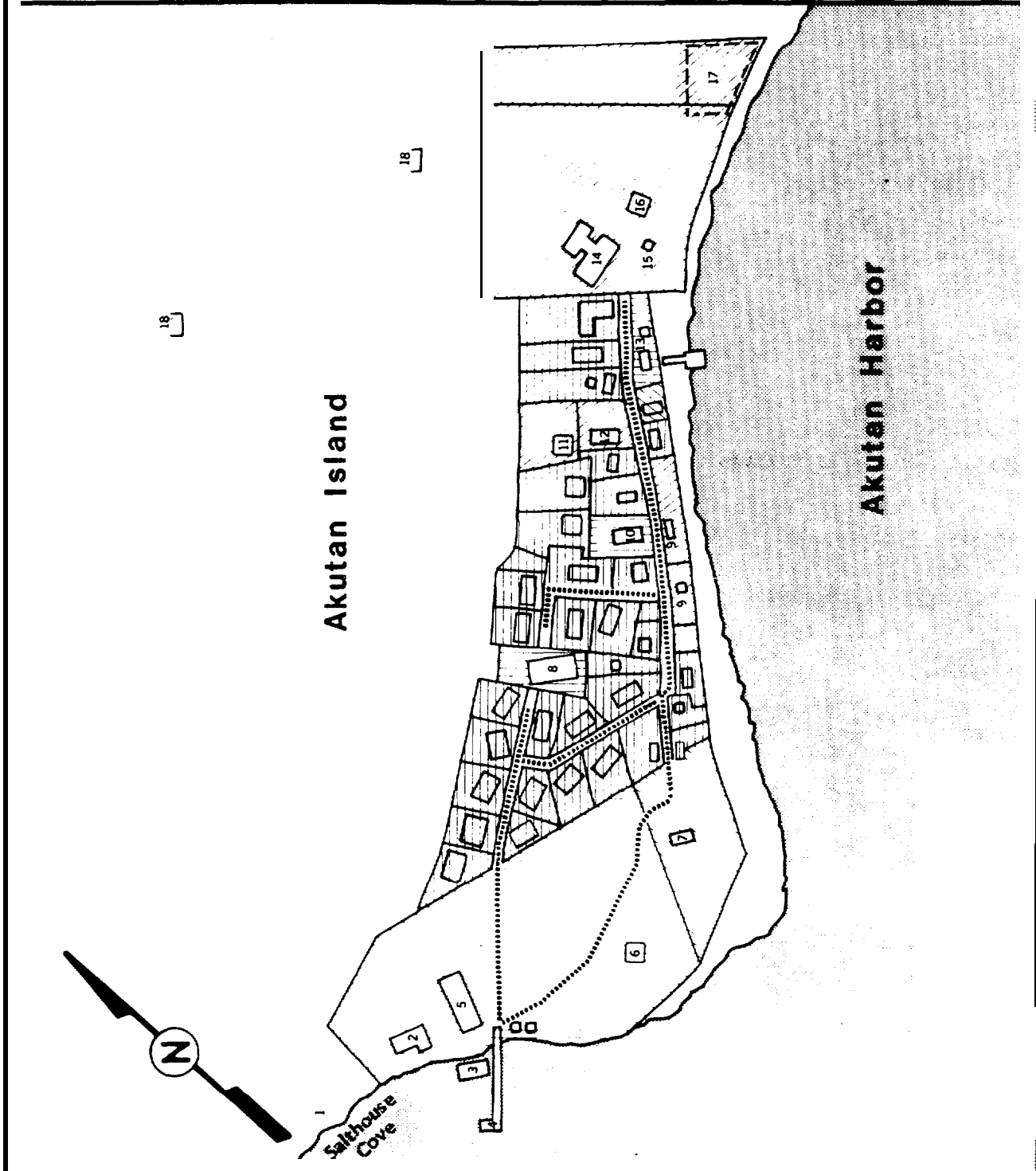
-  Commercial
-  Private non-residential
-  Public
-  Residential

- 1 Scaplane Ramp Site
- 2 Roadhouse
- 3 Storage Barge
- 4 Sawest Dock
- 5 Sawest Warehouse
- 6 Powerhouse
- 7 Church
- 8 Sawest Bunkhouse
- 9 Public Safety Buildings
- 10 Bayview Plaza
- 11 Recreation Center
- 12 Health Clinic & Library
- 13 Store
- 14 School
- 15 Generator & Pelton Wheel
- 16 Water Treatment Building
- 17 Waste Incinerator Site
- 18 Water Storage Dams

Scale



Stephen R. Braund & Associates  
1987



1145 (Figure 4-7) and the state water rights and tideland leases (Figure 4-8), all present land use is confined to the village area due to the steep slopes surrounding the harbor area and the volcanic nature of the island.

#### Residential Land Use

Interspersed throughout the village on either side of the south boardwalk, 16 lots are occupied by houses built before World War II. The lot on which the 17th house sat is now occupied by the Seawest bunkhouse. On the west side of the village, bordering the church property, and on either side of the northern boardwalk are an additional 16 lots with houses built in 1983. As shown on Figure 4-6, the majority of the village is zoned for residential uses including the existing housing area, the cemetery, the school, and the church. In addition, the City of Akutan has considered purchasing land from the church for future residential development. A further discussion can be found in Housing.

#### Commercial Land Use

Developed commercial land is located within the village area (Figure 4-6), west of the village (on USS 1145, Figure 4-7), and across the harbor from the village (on USS 1143 and USS 1144, Figure 4-7). A description of primary uses on these lots follows.

- o Most of Tract B (2.75 acres) of USS 780, owned by the Russian Orthodox Church, is currently leased to Seawest; the church also leases a portion of Tract B to the city for its generators. Bordering the western end of the community, this lot was originally leased (25 years with an additional 25 year option) to Wakefield Fisheries in 1968. Seawest Fisheries assumed the lease in 1979 and Pelican Seafoods sublet from Seawest in May of 1985. The property contains a dock, generator, warehouse, private boathouses, and the privately owned Roadhouse bar. A storage barge is moored offshore and the M/V Western Sea, a processing vessel, is moored at the end of the dock when it is not at sea.
- o USS 1145 (12.95 acres) has been leased to Trident Seafoods by a non-local owner since 1979. In June of 1983, a fire destroyed the main processing and warehouse building; a smaller building was immediately built on the same site.
- o USS 1144 (12.98 acres) has also been leased from the same owner to Trident Seafoods as a storage base since 1979.

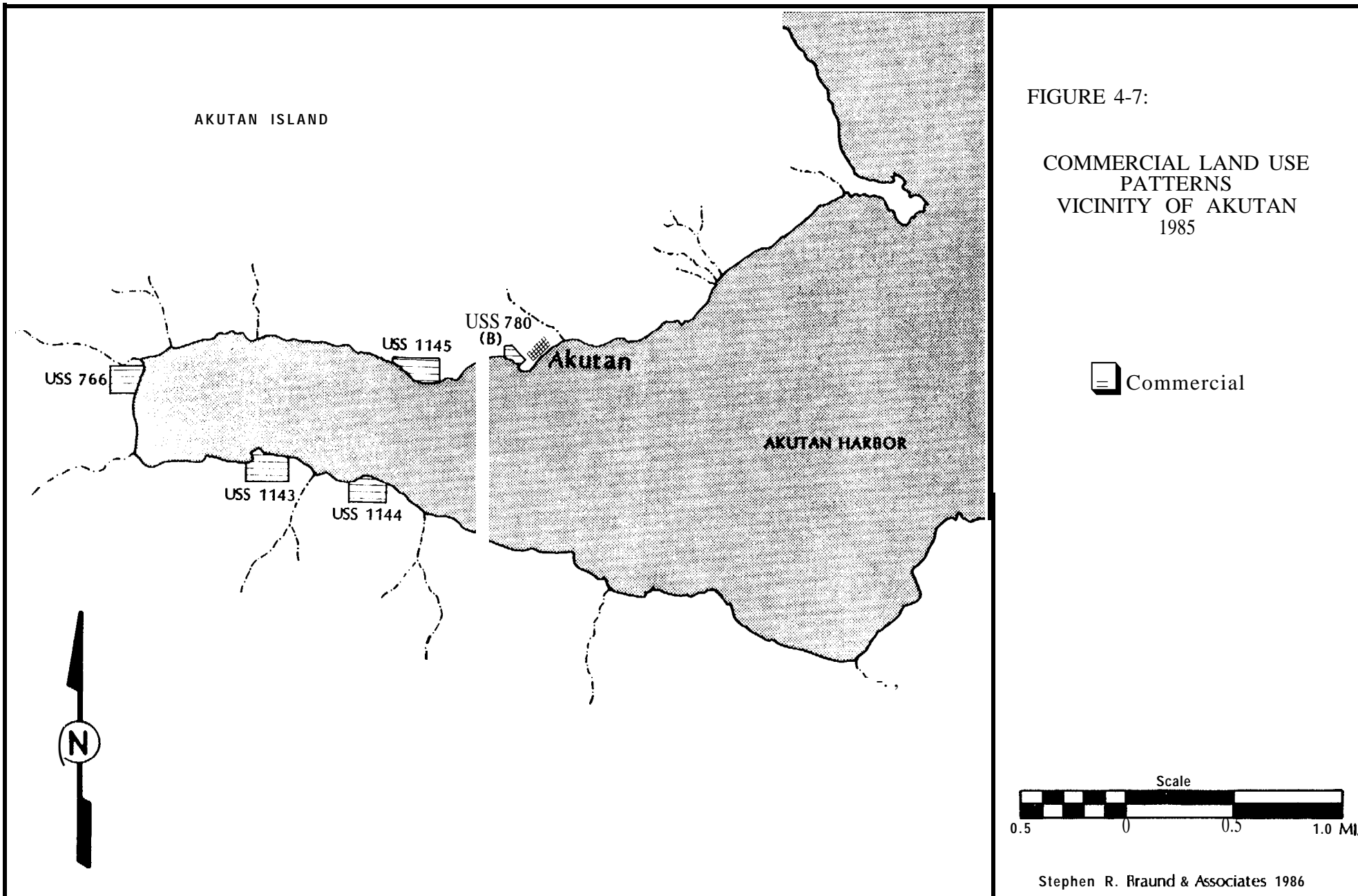


FIGURE 4-7:

COMMERCIAL LAND USE PATTERNS VICINITY OF AKUTAN 1985

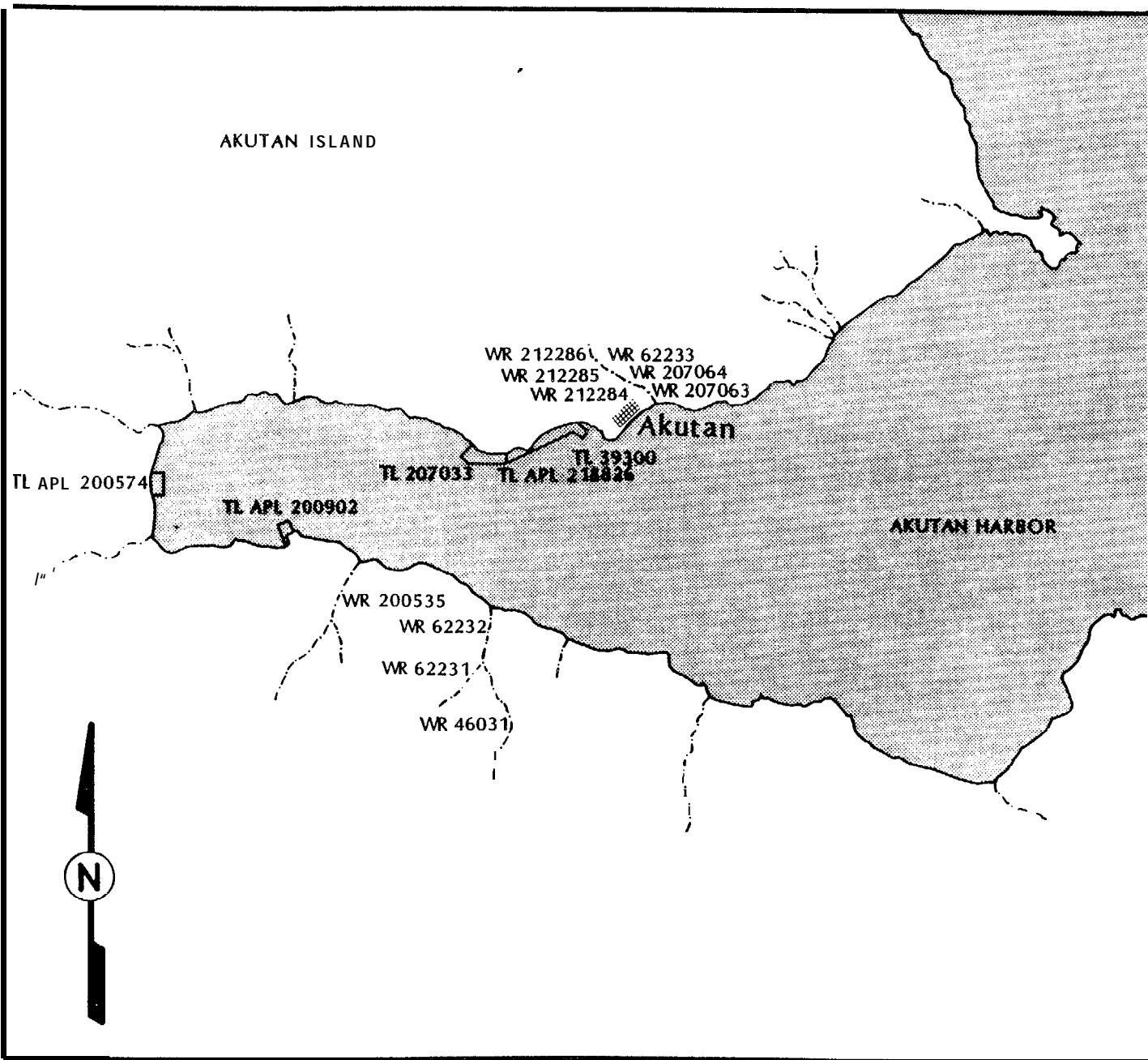
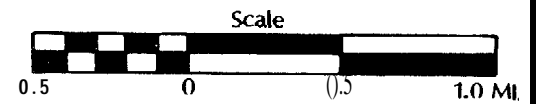


FIGURE 4-8:

TIDELAND LEASES AND WATER RIGHTS VICINITY OF AK UTAN. 1985

- TL = Tideland Lease
- TL APL = Tideland Lease Application
- w R = Water Rights



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- o USS 1143 (12.20 acres) has been leased from the same non-local owner since 1973 by Alaska Shell, Inc., Deep Sea Fisheries, as a ground storage base for their M/V Deep Sea operation.

Within the village, commercial uses include the Seawest bunkhouse, the village store, and the Bayview Plaza (Figure 4-6), all of which are discussed below.

- o The Seawest bunkhouse is located on the northern boardwalk east of the **Seawest** warehouse. The bunkhouse sleeps approximately 40 people and is used for temporary personnel. This building is on one of the original homesites obtained by Seawest in the early 1980s and was leased to Pelican Seafoods in May of 1985.
- o The village store is located at the east end of town along the southern boardwalk. A former resident leases the building to the **Akutan** Corporation, which operates the store.
- o The Bayview Plaza, a multiple use two-story building built in 1982 by the **Akutan** Corporation, is located in the center of town. The City of **Akutan** leases the first floor of the building from the Akutan Corporation and sublets space to the U.S. Postal Service for the post office.

#### Public Land Use

Public land use within the village is also shown on Figure 4-6 and includes:

- o The school located on the eastern end of the village.
- o The library and health clinic (opened January 1983).
- o The recreation center.
- o The public safety building (built in 1981).
- o The water tanks and treatment building (located on the same 1.68 acre tract as the school).
- o The **Pelton** hydroelectric wheel (located on Lot 3 [0.05 acres] of USS 2014).
- o The city generators (located on USS 780, Tract B).
- o The boardwalks. Presently no roads exist in the Akutan vicinity. All freight coming into the area arrives by air or ship. Fish processors bring in most of their own supplies and other freight is brought into Akutan by Airpac from Dutch Harbor and Peninsula Airlines from Cold Bay.

In addition, water and tideland rights within Akutan Harbor have been granted by the State of Alaska to the Akutan Corporation, seafood processing companies, and private individuals. The location of these use rights are indicated on Figure 4-8 and any additional information is presented in Table 4-11.

### Recreational Land Use

Recreational land use within the community is located in the recreation area near the church (Figure 4-6). Future recreational sites may include the level areas east of the community and a small area near the community flagpole (ADCRA 1983). The city is considering establishment of other outdoor public recreation areas such as a playground.

### Land Management

#### City of Akutan

The City of Akutan presently has a planning commission consisting of five residents. Specific functions of the commission include platting, administration of zoning ordinances, issuance of building and land use permits, and preparation of recommendations and plans for development, land use, land ownership, and capital improvements. To date the planning commission has approved two subdivisions, Akutan Harbor Subdivision #1 (25 lots including the original 17 housing tracts) and Akutan Harbor Subdivision #2 (17 lots, 16 of which contain new housing) and has approved zoning for the village. Further, the commission has issued building permits for the public safety building, the Bayview Plaza, the community hall, the health clinic, the 16 housing units built in 1983, and the school. The commission has also participated in the recommendations for development and future land use.

#### ANCSA Lands

As discussed in Land Ownership, the Akutan Corporation manages the majority of the lands in the area. Presently, one of the primary goals is to retain open lands that will be needed by the city for public use and chart the course for

TABLE 4-11: TIDELAND LEASE AND WATER USE RIGHTS GRANTED  
IN THE VICINITY OF AKUTAN, ALASKA

<u>Number</u>	<u>Rights Conferred</u>	<u>Holder</u>	<u>Date Issued</u>
WR 46031	Water Rights	Nelco Fisheries, Inc.	Mar. 1, 1978
WR 62231	Water Rights	One Individual	Aug. 13, 1973
WR 62232	Water Rights	One Individual	Aug. 13, 1973
WR 62233	Water Rights	One Individual	Aug. 13, 1973
TDL207033	Tideland Lease <b>Apln.</b>	One Individual	Dec. 18, 1980
WR 200535	Water Rights	Alaska Shell, Inc.	Apr. 24, 1978
WR 207063	10,000 gallons per day	Yukon <b>Bleu</b> , Inc. M/V <u>Western Sea</u>	Dec. 19, 1980
WR 207064	1,600 gallons per day 10,000 gallons per day	Yukon <b>Bleu</b> , Inc. M/V <u>Western Sea</u>	Dec. 19, 1980
WR 212284	8,930 gallons per day	Akutan Corporation	Nov. 24, 1981
WR 212285	4,760 gallons per day	Akutan Corporation	Nov. 24, 1981
WR 212286	400 gallons per min.	Akutan Corporation	Nov. 24, 1981
WR 212287	10' x 500' water transmission right	<b>Akutan</b> Corporation	Nov. 24, 1981
WR 212288	10' x 300' water transmission right	Akutan Corporation	Nov. 24, 1981
TDL200902	Tideland Lease <b>Apln.</b>	Alaska Shell, Inc.	Aug. 28, 1978
TDL200574	Tideland Lease <b>Apln.</b>	Trans. Pacific Ind.	Jan. 4, 1980

Source: Alaska Department of Natural Resources - Division of Land and Water Management (1985), Land Records.



the best possible use of these lands. One critical decision will involve ownership and use of the land at the head of the harbor (USS 766), including control of the gravel and water resources on this land that are necessary for future development in the area.

#### Coastal Zone Management Plan

Akutan was designated, along with Unalaska, Atka, and Nikolski, as a potential western Aleutians coastal resource service area (CRSA) under the Alaska Coastal Management Act of 1977. This CRSA would have provided a mechanism for local communities to have input into coastal development issues such as commercial fishing, industrial activities, and oil and gas lease sales within the region. However, based on preliminary discussions in 1981-1982, Akutan resisted formation of this CRSA due to concerns that Unalaska would dominate the board to the detriment of the smaller communities within the CRSA. As a result of these apprehensions, Akutan is now investigating the possibility of joining the Aleutians East CRSA. Further discussion of this situation is found in Political Systems, below.

#### Future and Planned Development

"Akutan: Prospects for Development" (ADCRA 1983) described the head of the harbor (USS 766) as being the most likely site for future industrial development. Considering the topographical constraints, this site is one of the few areas available for development. One of the City of Akutan's tentative selections (Figure 4-4), this site borders USS 766 and its development depends upon ADNR's action on the corporation's sale application filed in 1980. The ownership status of USS 766 must be first resolved prior to any development as these 5.96 acres contain tidelands and water sources critical to the expansion of the area.

Other identified constraints for development of this land include the following:

- o The land is poorly drained (groundwater was encountered near the surface to 10 foot depths) with relatively low bearing capacities.

- o The closest gravel source, located at the site, was unsuitable without extensive de-watering. Other gravel sources will depend upon negotiations with Aleut Corporation.
- o Financial constraints are severe. With the sharp decline of red crab harvests in 1981 and 1982 and the closure of the red king crab fishery for the 1983-1984 season (pending recovery of stocks), the City of Akutan experienced diminished revenues. To further aggravate this condition, a fire in June of 1983 destroyed Trident's new processing building (although the plant was subsequently reconstructed). Because of these factors, the tax revenues generated by seafood processing declined, resulting in a reduction in Akutan's share of state revenues annually distributed to Alaskan communities (ADCRA 1983).

In addition to potential development at the head of the harbor, the Akutan Corporation and the City of Akutan hope to complete the following projects over the next several years.

- o Seaplane Ramp and Bulk Storage Plant. A legislative appropriation approved for a small airport at Akutan was converted to allow construction of a seaplane ramp for the community at Salthouse Cove. The seaplane ramp was considered superior to the small airport because the need for a second air taxi service was not established and too little land was available for a runway. A feasibility study conducted by an architectural firm resulted in construction cost estimates of \$157,736 for the bulk storage plant and \$150,000 for the seaplane ramp. Furthermore, the soils were found to be unstable. Hence, another site had to be chosen for the seaplane ramp. Twenty acres were then conveyed to the city west of Seawest and east of Trident Seafoods. These projects were under construction in the fall of 1985 and are to be completed in the spring of 1986.
- o Community Solid Waste Disposal. This project is also currently underway, to be completed in the spring of 1986.
- o Community Small Boat Harbor. The U.S. Army Corps of Engineers has investigated several sites from 1981 to present, with an interim report issued in 1982. All sites identified in the interim report were rejected due to cost and technical constraints (i.e., floating breakwaters would have been required). The current proposed location is to the west of the seaplane ramp.
- o Alaska Marine Highway System Dock. A study performed in 1980 by the state (ADCRA 1983) investigated the requirements and possibilities of a state ferry system dock in Akutan. The report identified a potential dock site in Akutan at or near the existing Seawest dock. The cost of the pier facility is estimated at \$9 million.

### Development Constraints

Due to the topography surrounding Akutan and Akutan Harbor (the island is a large, active volcano surrounded by a small portion of land), little land is available for future development. The land bordering the village is dominated by steep slopes incised by deep streams. Thus, few sites are available for future development. Historically, landslides have not been a problem (ADCRA 1982). Coastal flooding is not a problem as the embayment protects the community from all but severe storms. Fresh water is available and used for fish processing. In addition to topographical constraints, other problems hinder future development.

- o Resolution of ownership of USS 766. Before development of these lands at the head of the harbor can occur, ownership of USS 766 must be resolved.
- o Sources for gravel must be found in order to develop lands at the head of the harbor. The cost of moving and placing gravel will depend upon negotiations with the Aleut Corporation and/or private industry.
- o The configuration of the harbor bottom will need substantial modification in order to develop the docks and/or harbors required for certain types of future development.

### Housing

Figure 4-9 shows residential housing for the community of Akutan. Akutan Harbor Subdivision #1 contains 16 of the original 17 wood frame houses built in the late 1930s; these homes appear to be well maintained. Currently, 15 of the original houses are in residential use; the Seawest bunkhouse sits on one of the original tracts and the other is vacant. Prior to 1983 all residents were housed in these 16 homes. In 1984, homeowners with paid mortgages received deeds to the houses and to the land from the village corporation (Figure 4-4).

In 1982, the Akutan Corporation gave the AHA a quit claim deed for approximately 2.33 acres of land which makes up Akutan Harbor Subdivision #2. Sixteen wood frame houses, sponsored by AHA, were shipped in two pieces and assembled in Akutan Harbor Subdivision #2 in 1983. All houses were sold to Akutan residents under AHA's Mutual Help program. Qualifications for this program are need, income, and status as a family. Payments range from a

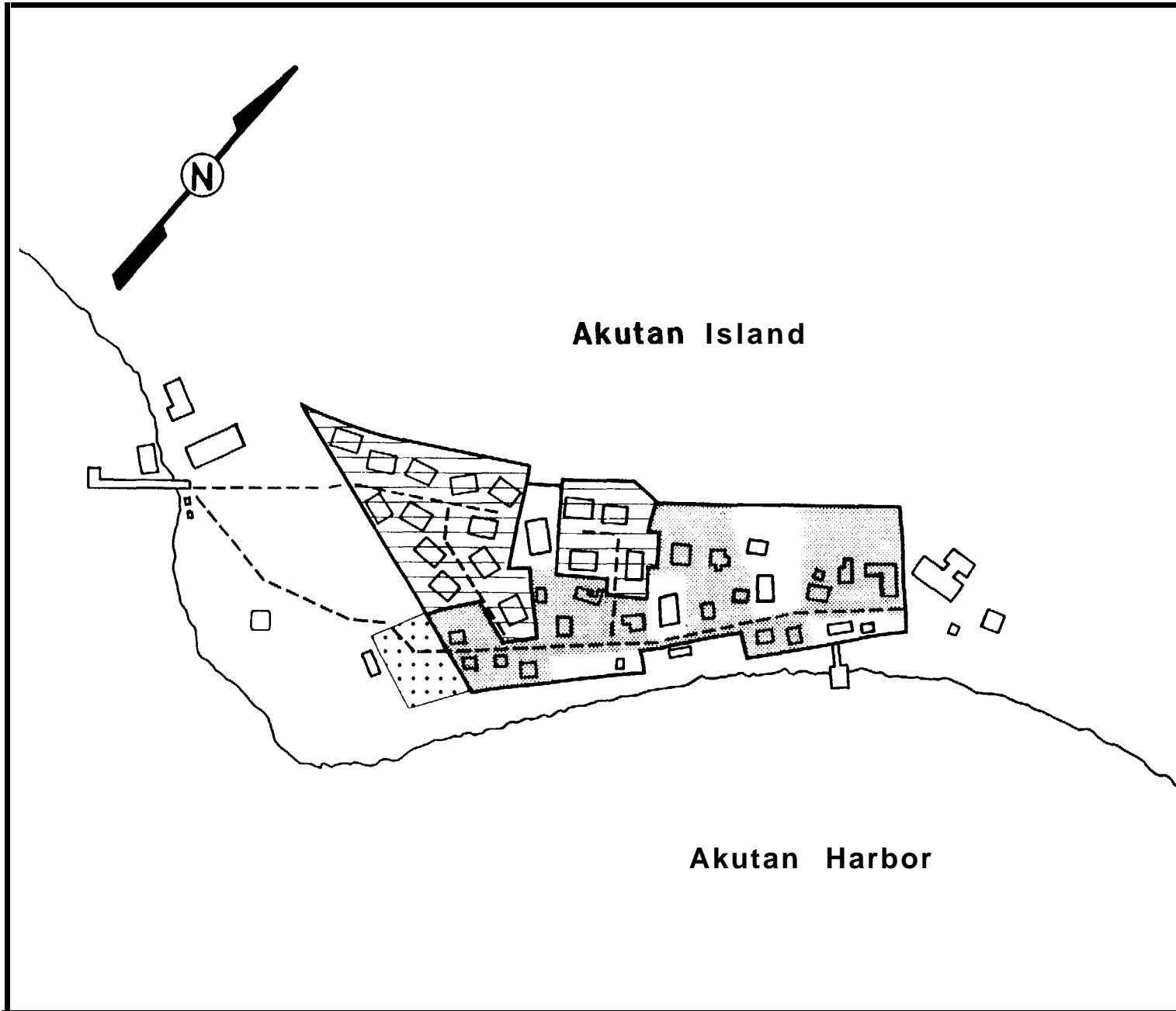



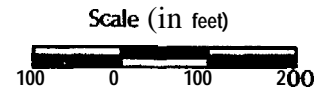


FIGURE 4-9:

AKUTAN HOUSING  
1985

-  Original Houses - Akutan Harbor Subdivision #1(\*)
-  New 1983 Homes - Akutan Harbor Subdivision #2
-  Potential Future Development



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1. Within this subdivision, the unmarked lots are non-residential holdings (e.g., city and Akutan Corporation buildings).

minimum monthly amount to 25 percent of the household's income. Fourteen three-bedroom homes were sold for \$94,121.76 each and two four-bedroom homes were sold for \$106,752.00 each. According to one resident, "everyone spread out to fill up all the housing - no housing was vacated."

Some residents expressed dissatisfaction with the new housing. Specifically, the major complaint has been the homes' inadequate heating systems - a reservoir/boiler stove which doubles as a heating and cooking stove. Although the houses are reportedly getting new stoves, a **weatherization** crew member stated that replacement stoves will be basically the same type of stove as before. Reportedly, one original tenant of the new housing moved due to dissatisfaction with the heating system, culminating with the observation of soot in their home.

Employees of the seafood facilities are housed in the M/V Western Sea which is docked alongside the Seawest shore facility, or in Trident's two bunkhouses which are located at the processing site west of town. (The Seawest bunkhouse has not been used for some years.)

Within the village of **Akutan**, future possible residential development areas include church owned land adjacent to the existing residential area. In addition, residential development may accompany development at the head of the harbor, if such development occurs. Twenty-eight sites have been designated as residential sites at the head of the harbor.

### Summary

Land owners in the Akutan vicinity, in chronological order of acquisition, include: the federal government (National Wildlife Refuges), the Russian Orthodox Church, one non-local private individual, the State of Alaska, the Akutan Corporation, the City of Akutan, and private individuals. With one exception, most lands patented prior to 1959 changed ownership in 1972 and are currently leased for commercial use. The Russian Orthodox Church lands did not change hands in 1972; a large portion of their land is leased for commercial use. The 1959 statehood act gave the state title to approximately 40 acres and management over water rights. ANCSA (1971) gave 92,160 acres to the Akutan

Corporation; 89,773 acres have been conveyed to date. Additional land transfers have occurred as conveyances from the corporation. Section 14(c)(3) of ANCSA allows the City of Akutan to select up to 1,280 acres of village corporation land; by August of 1985 approximately 391 acres had been conveyed. Other conveyances were to AHA and to private individuals for residential use.

Land use in the Akutan vicinity falls into four categories: residential, commercial, public, and recreational. Current residential use is confined to the village and consists primarily of local residents, school teachers, and temporary construction workers. Commercial use within the village caters to local uses (e.g., village store, and Bayview Plaza); commercial use outside the village caters to fisheries (e.g., Seawest, Trident, and Deep Sea) which form the local tax base. Public use consists of public services and facilities within the village (i.e., school, health clinic/library, recreation center, public safety building, and utilities). Tideland leases and water rights in the vicinity are managed by the State of Alaska. Recreational use is confined to two small areas, although the city hopes to establish more outdoor public recreation areas.

The primary goal in the **Akutan** Corporation's land management is to retain open lands for city use and decide the best possible use of these lands. Prior to conveyance of any of its entitlement, the City of Akutan established a planning commission; subsequent to land conveyances, the commission has approved zoning, issued building permits, and made recommendations for development and future **land** use. Akutan is presently investigating the possibility of becoming its own coastal resource district in order to have more local input into fishery activities, gas and oil lease sales, and other development in the area.

:-  
Solid waste disposal, seaplane ramp, and bulk fuel storage projects are currently underway or imminent in Akutan. A small boat harbor is being considered for the community but is still being studied for site location and feasibility. The "world class" processing plant proposed for the head of the harbor in the early 1980s encountered many developmental constraints (e.g., ownership status, water level, gravel source, financing, and private industry) and is not considered a viable community pursuit at the present time.

In addition to those constraints mentioned above, development is limited due to the mountainous topography of the area. However, fresh water, stable soils, and lack of coastal flooding characterize the little land available. Further, the decline of the red king crab fishery has affected Akutan doubly: stocks have declined, lowering Akutan's tax base which, in turn, diminished its share of state revenue.

There are currently 31 wood frame houses in Akutan, 29 of which are occupied by local residents. Fifteen of these homes (built in the 1930s) were conveyed to homeowners in 1984. The remaining 16 homes were completed by AHA in 1983 and immediately sold to local residents. Employees of the fish processors are housed on the floating processors or in Trident's bunkhouses. Future residential expansion has been considered on church owned land which borders the present residential community; the city has entered into preliminary negotiation with the church for purchase of this land.

#### COMMUNITY FACILITIES AND SERVICES






Significant changes in the public facilities, utilities, and services provided by the City of Akutan have occurred since the city's incorporation in 1979. Construction of the Bayview Plaza building, renovation of the water system, sewer system construction, extension of telephone service, upgrade of the electrical system, and a medical clinic are examples of recently completed projects. An addition to the community school was to be completed in December 1985 while an increase in the capacity of the bulk fuel storage facility and a seaplane ramp are current projects scheduled for completion in the spring of 1986. The following discussion focuses on city improvements since 1979 and on future projects.

##### Facilities

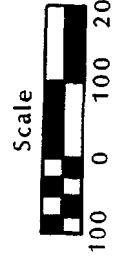
Public facilities in Akutan (Figure 4-10) include public buildings (e.g., Bayview Plaza building, community recreation center, school, health clinic), utility systems, and communications. These facilities are described below, while the Services section describes the education, safety and fire, and health care services.

FIGURE 4-0

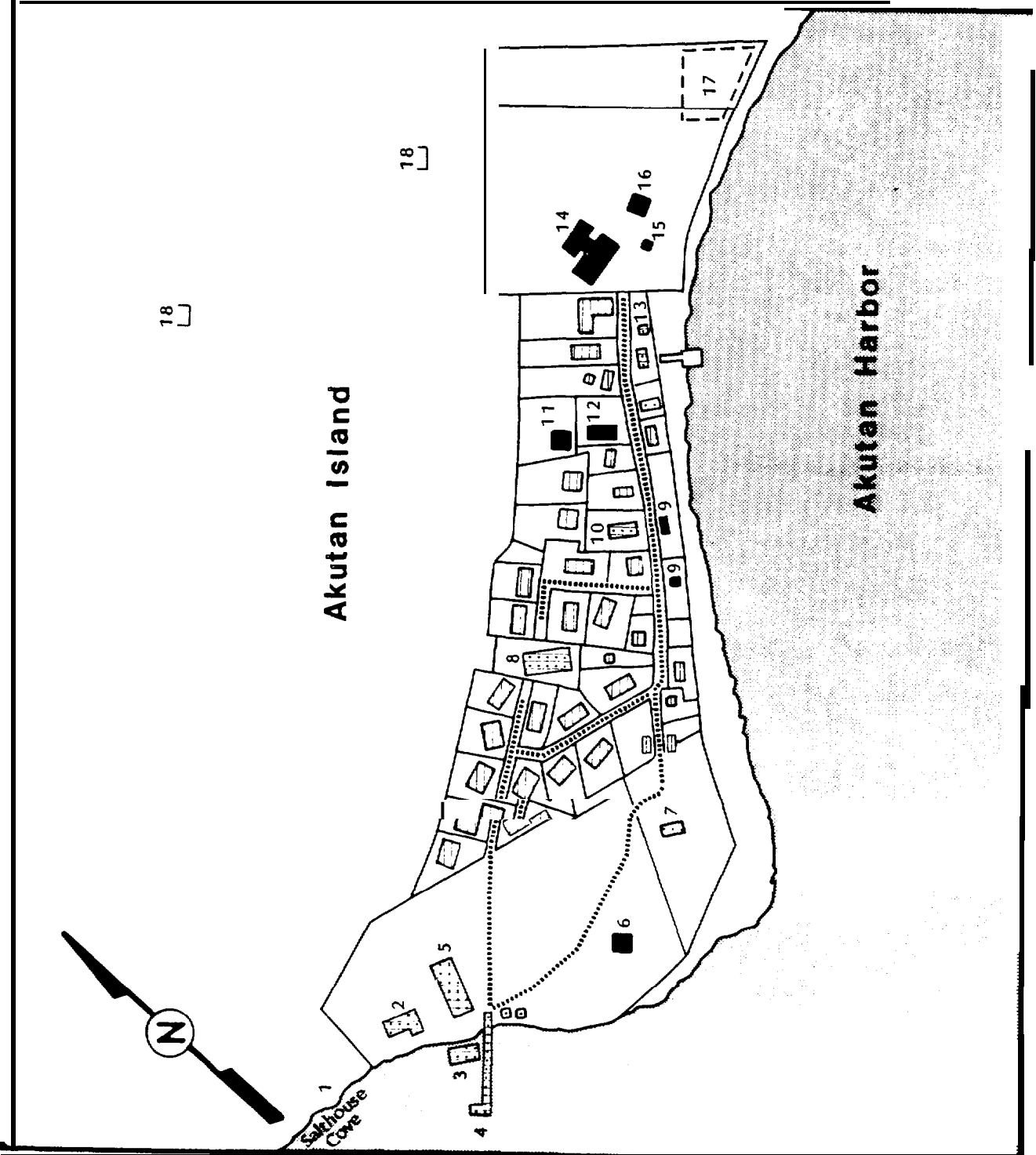
AKUTAN, 985

-  Commercial
-  Private non-residential
-  Public
-  Residential
-  Boardwalk

1. Scaplane Ramp Site
2. Roadhouse
3. Storage Barge
4. Seawest Dock
5. Seawest Warehouse
6. Powerhouse
7. Church
8. Seawest Bunkhouse
9. Public Safety Buildings
10. Bayview Plaza
11. Recreation Center
12. Health Clinic & Library
13. Store
14. School
15. Generator & Pelton Wheel
16. Water Treatment Building
17. Waste Incinerator Site
18. Water Storage Dams



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## Public Buildings

The Bayview Plaza building was completed in 1982 by the Akutan Corporation. Although privately owned, the building serves a variety of community and municipal needs, including office space for the city and Akutan Corporation, the U.S. Post Office, a laundromat, a public meeting room, and rental apartments. The city manages the ground level, including all offices, the post office, and laundromat, under a lease agreement with the village corporation, while the Akutan Corporation maintains the six rental apartments on the upper level. The occupancy rate of the apartments varies seasonally, with the greatest amount of use occurring during the summer construction season. For example, four of the six units were occupied by workers on the school addition construction during July and August 1985.

The lobby and front deck of the Bayview Plaza building function as central gathering and visiting locations for local residents. These are usually casual meetings, occurring, for example, when people stop to check their mail. Prearranged meetings also occur there; for example, children enrolled in the summer Johnson O'Malley Program (JOM) rendezvoused on the front deck.

Another central meeting location used by Akutan residents is the community recreation center. Renovated by the city in 1981, it is used for scheduled social activities (e.g., bingo and movies) as well as unorganized activities such as playing pool or video games.

The Anesia Kudrin Memorial Health Clinic, which opened in January 1983, is the first health clinic to operate in Akutan. The clinic is named for an Akutan resident who had served as the community health aide and midwife. The 720 square foot clinic contains one examination room, an office, and a reception area. The facility received an excellent rating in a recent health facility survey (Alaska Area Native Health Service 1984). A small library, located at the north end of the clinic building, is staffed by a city employee in the afternoon and evenings.

The public safety building in Akutan was constructed in 1981. It contains an office area, one temporary holding cell, a restroom, and a storage room. Fire

fighting equipment and the public safety and emergency medical equipment are also stored in the public safety building.

- The original one room school was built in 1921 and has been renovated and expanded through the years. In 1985, the Aleutian Region School District received funding to more than double the size of the Akutan School. The addition and remodeling project was begun in the summer of 1985 and construction is expected to be completed by December. The majority of the new addition is devoted to a multipurpose room (1,540 of the additional 2,706 square feet). Besides serving as a gymnasium, this large structure will be available for other community events (e.g., plays, public meetings), and will greatly expand the recreational potential in Akutan. The school addition will also have a shop, a welding dock, and a media/library room.

The remodeling of the old school structure will convert it from a one classroom school to a two classroom school. The expansion of classroom space is being made possible in part by moving the teachers' living quarters, which had been within the school, to a house near the school. The teachers moved out of the school in compliance with a school district goal of moving teachers into the community to reduce isolation and increase integration and involvement with the community.

- e Outdoor public use areas include the corporation building deck (mentioned above) and the school playground. The high value placed on the playground is evidenced by residents' comments in favor of maintaining the school playground and its view (Maynard & Partch 1985). Similarly, the importance of other recreation areas is reflected in positive answers to a survey question on future community projects. Residents mentioned a softball field, another playground (for volleyball and basketball), and a picnic area as desired improvements (Akutan Coastal Management District 1984).

- Air transportation to and from Akutan is by seaplane only, as there is no site suitable for an airstrip in the vicinity. A seaplane ramp is being constructed near the current seaplane landing site in Salthouse Cove. There was neither a city dock nor a small boat harbor in 1985, although both facilities were in the planning stages (See further discussion in Land Use).

## Public Utilities

Renovations on the sewer, water, and power generation systems began in 1982. At the time of the fieldwork for this study, all utilities were operational and adequately met the needs of **Akutan** residents.

Akutan's source of drinking water is a small reservoir (approximately 16 ft. wide, 12 ft. deep, and **40 ft. long**) located **on** the hillside northeast of town. Formerly used for hydroelectric power, the reservoir was converted to the town's drinking water supply in 1981 by the U.S. Public Health Service. The entire water system was renovated for three main reasons: first, the old system (circa 1927) was again in need of repair after a recent upgrade (1974); second, maintaining water quality was difficult with the old system; and finally, the water needs of the community were expanding due to the construction of 16 new homes. The renovation included installation of a 860 foot water transmission line, installation of 1,100 feet of water main, and connection of 29 houses to the improved system. Akutan's drinking water is filtered and chlorinated, and fluoride is added. Although the water quality data for Akutan's water **supply** is limited, water samples tested in June and July 1985 were **well** within safe **levels** on bacteria and **lead** concentrations (Alaska Department of Environmental Conservation 1985).

In conjunction with the new water system, a wastewater system was completed by the U.S. Public Health Service in 1982. Five hundred feet of sewer line and two 4,700 gallon community septic tanks were installed and 33 homes were connected to the **wastewater** system. **In** addition, 500 feet of marine outfall line was constructed, correcting the potential health hazard posed by the prior discharge of wastewater above the mean low water tide line (U.S. Public Health Service 1981).

As of 1985, the city had not implemented a household fee for water or wastewater service. The annual costs for operation and maintenance of the two systems were estimated in 1981 at approximately \$3,035 for the water system and \$1,209 for the wastewater system (U.S. Public Health Service 1981).

Community solid waste disposal is a problem that is currently being resolved. Residents have usually burned their garbage on the beach or disposed of it in the harbor on outgoing tides. The city received a grant from the Alaska Department of Environmental Conservation (ADEC) in 1982 for dump site analysis and development, and reviewed the possibility of purchasing a small barge to transport solid waste material from the processors to a solid waste disposal site. While processors will continue to be responsible for their processing and solid waste disposal, the city will adopt the procedure of incinerating community waste on shore and disposing of the residue in the ocean. The Environmental Protection Agency has approved this disposal system, and in 1983, Akutan received a \$50,000 legislative grant for a municipal waste incinerator (Alaska Legislative Finance Division 1985; City of Akutan, personal communication October, 1985).

The new solid waste disposal system is expected to be fully operational in 1986. A boat was obtained under the grant and will be used to take the ashes to the ocean dump site, approximately five kilometers east of the city with a water depth of 80 meters (Jones & Stokes Associates, Inc. 1985). A compactor has also been purchased for crushing aluminum which will be shipped to Seattle for recycling. Garbage collection will continue in the same manner, collected by a city employee in the city transport vehicle. The city is not planning to charge for the service.

As with solid wastes, seafood processing wastes must also be dumped outside of the harbor. Water quality studies in Akutan harbor have found that processor wastes, while not contaminating the waters of the harbor to any great extent, tend to accumulate due to the harbor's slow flushing rate (Jones & Stokes Associates, Inc. 1984a, 1984b, 1985). Akutan harbor receives special status from the U.S. Environmental Protection Agency (EPA) and seafood processors are required to obtain a permit before operating in the harbor. While the water quality of the harbor is high (Jones & Stokes Associates, Inc. 1984a), the number of floating processors is controlled to avoid the accumulation of wastes. Waste control is especially crucial in marine environments where mollusks or other aquatic life is gathered for human consumption.

Akutan households are primarily dependent on fuel oil for heating and cooking, and on electricity for lights and refrigeration. Prior to 1982, most homes used electrical power generated by a 24 volt DC hydroelectric system. Although the cost per household was very inexpensive under that system (approximately \$1.00 per month), the power requirements of the community outgrew the capabilities of the system. A number of residents purchased generators to supplement their electricity, also providing electricity to neighbors. They incurred considerable expense providing their own supplementary electricity. While the city preferred to install a modern hydroelectric system to meet the increased demand, such a project did not prove feasible and the city converted to a diesel generator system. In 1982, a diesel plant facility consisting of two 85 KWH (kilowatt-hour) generators (funded by legislative appropriation) and a 12,000 gallon fuel storage tank (funded by a state grant) were installed.

Under the new system in 1983, the City of Akutan charged 23.23 cents per KWH for electricity. In 1985 the charge was 37 cents and the average monthly cost per household varied between \$60 and \$114 (field interviews 1985). However, the community receives Power Cost Equalization funds through APA which average 14.5 cents per KWH paid on the first 750 KWH for each utility customer. Consequently, the net cost to the consumer, 22.5 cents, is roughly equivalent to the cost before the rate increase. The city's energy needs are well within the generating capacity, averaging 45 KW during the summer and 80 KW during the winter. The school addition is expected to draw on an additional five to seven KWH.

The city's fuel storage capacity (a 12,000 gallon diesel fuel supply for the generators and a 4,500 gallon tank for residential heating fuel) has not always been sufficient for community needs. In an attempt to maintain a sufficient supply, the city has purchased eight new bulk fuel tanks, increasing the fuel storage capacity by 60,000 gallons. The tanks arrived in Akutan in October 1985.

Residents purchase their heating fuel from the city for an average of \$58 per 55-gallon drum. According to field interviews, household usage averages one drum per month during the summer and varies between one and three drums per month during the winter. Fuel is transferred from the bulk tanks to home fuel tanks with the city transport vehicle.

Community residents have shown an interest in returning to hydroelectric power (Akutan Coastal Management District 1984, City of Akutan, personal communication, October 1985, and fieldwork for this study). The community had hoped to build a new system in 1979. A feasibility study was undertaken and a 175 KW turbine was purchased with APA funding. The project's estimated cost of \$2.25 million proved unfeasible for a community of this size, and the turbine was transferred to APA ownership. Subsequently, the village converted to diesel power at the significantly lower cost of approximately \$700,000. The possibility of returning to hydroelectric power is unknown at this time. One factor working against it is the possibility of a strong (8+ Richter scale rating) earthquake in the area. Factors in its favor include cost reductions due to the previous acquisition of the turbine, the availability of construction equipment within the region, the community electrical distribution system being in place, and design changes. The possibility of providing power to processors is also a financial incentive. The APA is currently studying the possibility of locating a hydroelectric project on a stream near the head of Akutan Harbor (Alaska Power Authority, personal communication, October 1985).

#### Communications

A satellite dish, which provides access to telephone and television networks, is located at the west end of town. In 1983, Akutan switched the community telephone service from Alascom, Inc. to Sitka Telephone Service because of a lower rate, especially for local service. Presently there are at least 21 phone lines including 13 residential phones, two lines at Trident, and one each at Seawest, the village store, the city office, the corporation office, the school, and the clinic (compared to nine telephones in 1983 [ADCRA 1983]). Other forms of communication include Very High Frequency (VHF) and citizen band radios which are commonly used for communication in Akutan and with processors in the harbor. Local residents receive two television networks, Learn Alaska and the Alaska Satellite Network, via satellite.

## Services

### Safety and Fire

Akutan has a full-time public safety officer under the State Trooper VPSO Program **and** a full-time city police position. In addition, the State Fish and Wildlife Protection Officer stationed in **Unalaska** has jurisdiction for **Akutan** and vicinity. According to Akutan results, little crime and very few serious disturbances occur in Akutan. The occasional disturbance is usually alcohol related, such as fighting.

Akutan has a volunteer fire department composed of local residents. The new water system installed in 1982 includes two hydrants with pumps which can operate for up to two hours. The city **also** has a submersible pump that can draw water from the harbor for fighting **fires**. Prior to installation of fire hydrants, fires were fought with buckets of water dipped out of the harbor.

### Health Care

A/PIA funds and trains a full-time CHA and a part-time CHR. The CHR position is primarily educational, with a recent emphasis on nutrition and elderly health. **Akutan** receives annual visits by a physician from the Alaska Native Medical Center and information via teleconference with A/PIA as well. More serious cases are treated at the **Iliuliuk Clinic** in **Unalaska** which is staffed by a physician, and **Akutan** residents **travel** to Anchorage for most births and major medical problems.

The Anesia Kudrin Memorial Clinic of Akutan is one of 12 clinics to be added in 1985 to a U.S. Public Health Service (PHS) funded clinic leasing program. PHS provides financial support to 142 rural Alaska health clinics through the Alaska Area Native Health Service. Funding is received under a **lease** agreement whereby the Health Service will make a monthly payment of \$1,255 to the Akutan clinic based on square footage of service area and on estimated annual expenses. In return, the clinic facility must comply with basic criteria (e.g., maintain sanitary conditions, have electricity, and provide restroom facilities). A 1984 survey of the clinic gave it an excellent rating, the only

recommendation being that clinic refuse not be burned on the beach (Alaska Area Native Health Service 1984). That problem is to be remedied with the installation of the municipal incinerator.

Health care is a community issue in Akutan, as in most rural Alaska communities. A seven member community health committee is in place to help guide the operation of the clinic. The committee seeks solutions to problems with available services, while studying the acquisition of additional services. In a 1984 community survey, 65 percent of the respondents (17 of 26) expressed dissatisfaction with the available level of service (Akutan Coastal Management District 1984). In elaborating on desired improvements, residents mentioned more frequent doctor visits, the need for visits by a variety of doctors (e.g., eye, dentist), the desire for a resident registered nurse, acquisition of an Xray machine, and a better stock of medicines.

### Education

Nine students were enrolled in the Akutan school during the 1984-85 school year, seven in kindergarten through eighth grade and two in ninth through twelfth grade. Eight preschool students were also enrolled, which will soon cause a shift in teaching needs to the elementary grades (Maynard & Partch 1985). For example, a projection of student enrollment in 1989 is for 16 students in kindergarten through eighth grade and none in the higher grades.

The school has employed two teachers in the past as well as one or two teacher aides. However, in the current school year (1985-86), only nine students (none of high school age) are enrolled. Consequently, only one teacher position is needed. A married couple share the single position. They are assisted by one teacher's aide hired from the community.

The Community School Committee, comprised of three Akutan residents, oversees local school matters. It operates in an advisory capacity to the school board, which is district-wide and governs school district affairs. Residents expressed satisfaction with the local school committee's effectiveness in seeking solutions to both parents' and children's school-related problems. One resident from Akutan currently sits on the Aleutian Region School Board.



A main priority among desired community projects has been expansion of the school facility. The school addition project was underway during the field study. During a community discussion of the school project in October, 1984, residents expressed their concerns over the design of the project (Maynard & Partch 1985). Support was given to expanding the old school rather than totally rebuilding as more space would be obtained with the limited funding available. Residents also favored adding on to the rear of the school in order to retain the playground and the view from the front of the building. Other community priorities incorporated into the project design were separate restrooms, movable walls or curtains for space separation, and natural lighting (Maynard & Partch 1985). As the project was not completed at the time of fieldwork, the project's success in meeting community educational needs could not be ascertained.

### SOCIOCULTURAL OVERVIEW

The three **sociocultural** components discussed for each community (social organization, domestic economic structures, and political systems) provide a cultural context for **the** interpretation of socioeconomic patterns. Although the preceding socioeconomic discussion is localized and community-specific, its ramifications for different communities and **cultural** contexts are difficult to assess in the absence of **sociocultural** material. The synthesis of economic data with **sociocultural** data is a specific directive of MMS and is included in the analysis of each study community.

As stated in Chapter II, the socioeconomic material can be interpreted in its own right; such analysis would provide a picture of economic and infrastructure trends in the community. However, the meaning of these trends for families, households, and local **sociocultural** organizations can be identified **only** when placed in a **sociocultural** framework. For instance, descriptions of demographic data, income and expenditure patterns, and services are complemented by **sociocultural** analysis of household structures and kinship relations. Local economic adaptations among families are discussed as well as local residents' attitudes toward changing conditions. In addition, a **sociocultural** treatment of values in each subsection characterizes the perspectives local inhabitants

interpret socioeconomic changes and to motivate institutional responses. Finally, the **sociocultural** analysis provides information to help the reader distinguish between similar socioeconomic patterns in each community by illustrating their cultural meanings.

### Social Organization

This section describes the fundamental social structure of Akutan as well as both formal and informal social organizations. Included within this discussion are forms of organization such as family structure, household composition, voluntary organizations, and other forms of social organization evident in Akutan. Finally, this section describes those attitudes and/or issues identified by the study team as reflecting local residents' values regarding the social organization of their community.

### Kinship

The most fundamental form of social organization, not only in the Aleutians region but also throughout most cultures, is the family. In traditional **Aleut** culture, villages were comprised of as few as one or two extended families. An entire extended family might reside within a single large **barabara**, a semi-subterranean sod, driftwood, and whalebone house typical of **pre-contact Aleut** settlements (Lantis 1970; Laughlin 1980). Based upon numerous early explorers' chronicles, Lantis (1970) and **Jochelson** (1933) concluded that traditional, pre-contact **Aleut** kinship was **matrilineal**, meaning that descent was reckoned through the mother's "family line. The mother's brother held a more dominant position within this family structure than did the father. (This pattern is termed "**avuncular**" and literally means "mother's brother" in Latin.)

Currently in Akutan, this kinship system is no longer active. Rather, over the many years of contact, first with Russian settlers (beginning in the mid-1700s) and later with United States citizens and European immigrants (from the 1860s to the present), the dominant kinship pattern has shifted from being **matrilineal** to **patrilineal**. Thus, descent is reckoned through the males of the family: a man's wife and children assume his surname, his daughters assume their husbands' surnames when they marry, while his sons retain the family

surname when they marry. This is the kinship system typical throughout most of the United States today.

**Spaulding** ( 1955) deduced that Akutan village was founded at its present location sometime between 1866 and 1879. The first inhabitants consisted of several families from surrounding islands who moved to this location to form a single community. Factors that may have encouraged this consolidation include, first, a community on a nearby island lost its **church** in 1866, and second, the Western Fur and Trading Company established a trading post at the present village site around 1879. Another document (**ADCRA** 1982) states that the Russian Orthodox Church encouraged this move by constructing the present church and a school in Akutan in 1879. Thus, a few Native families settled the village along with the first resident agent of the fur trading company who married an **Aleut** woman and settled permanently in Akutan.

World War II disrupted **family** life in **Akutan** as residents were relocated to temporary camps in southeast **Alaska** for the duration of the war. During residents' absence, the village deteriorated from abandonment and vandalism. Some residents died during the evacuation and others chose not to return. However, those families who returned to their community reconstructed and resettled it, and have **lived** there continuously since then. Although undocumented, the wartime evacuation undoubtedly influenced the structure and integrity of Akutan kinship systems as families underwent unusually stressful disruptions during the relocation.

Of an estimated 1985 population of **75** permanent residents (field interviews 1985), the study team determined that nearly **all** of the population can be traced to approximately eight **Aleut**, long-time Akutan families. Those permanent residents not bearing longstanding Akutan surnames had assumed their non-local husbands' surnames. More of these core families are likely to be blood relatives to one another; however, the study team was unable to identify further interrelationships between these main lineages. In any case, most Akutan families are related to one another by marriage(s) if not by blood.

In traditional **Aleut** culture, the extended family was considered very strong (**Lantis** 1970). As mentioned above, extended families shared large households.

In addition, traditional **Aleuts** had a complex system of genealogical reckoning that was both more intricate than that of Europeans and was reflected in an extensively detailed kinship terminology (Laughlin 1980). In contemporary Akutan, the extended family appears to be strong although its form has undergone considerable change over the generations. For example, kinship terminology appeared limited to standard English terms and, rather than living in large communal houses, extended families now reside in several smaller homes.

Household composition patterns may be more a function of economic circumstance than of the strength of the extended family. However, since the household is the primary kinship unit in a community, trends in household composition provide insight into the importance of extended family relations. In 1953, Akutan's population of 92 people inhabited 20 households, with one to ten residents in each dwelling (**Spaulding** 1955), or an average of 4.6 persons per household. In 1982, 69 residents occupied 17 households, averaging 4.1 persons per household. Some of the population had migrated out of the community due to the lack of physical room in which to grow (ADCRA 1983). Late in 1982, 16 new HUD houses were constructed in Akutan. According to a 1983 study of Akutan (ADCRA 1983), community residents hoped that increased housing availability would attract former residents back to **Akutan**. However, this same source noted that the existing population occupied **all** the new homes and vacated only two of the old homes. As of 1983, no former residents had returned (ADCRA 1983).

● During the 1985 field study, the study team observed that one of the new homes and three older homes were vacant. Furthermore, interviews indicated that about two or three families had returned to Akutan after having lived elsewhere for a few years; one of these families rented an apartment in the corporation building while deciding whether or not to stay in Akutan permanently. Field data suggested that large families especially had moved into the new houses. Fifty-three residents resided in 15 new homes (averaging 3.5 persons per household) in contrast to 22 residents occupying 12 old homes (averaging 1.8 persons per household). Thus, the majority of Akutan's population resided in the new housing. A high concentration of middle aged and older single individuals resided alone in the old housing. Generally, nuclear family households (a married couple and their unmarried children) were the most common

pattern of household composition and residents indicated that this was the preferred household mode. Thus, a combination of preference and housing availability has resulted in a trend toward nuclear family households in Akutan.

Detailed household interviews were conducted with four families in Akutan. These four households are described below in terms of their household composition. Profiles of these same households appear below in Domestic Economic Structures. While the sample households do not represent a proportionate sampling of all Akutan households, they are representative of a variety of household types existing in the community.

The first household consists of a married couple. Their married children live elsewhere in the community in their own nuclear family households. The second household consists of a woman, her three children, and her boyfriend. The third household is usually comprised of a married couple and their four children, and the wife's mother. However, during the field study the wife's brother was also staying in this household during an extended visit to Akutan. The fourth household was comprised of a married couple, their three children, and the husband's elderly uncle. All of these individuals, including the visiting relatives, had lived most of their lives in Akutan. In addition to these household types, single individuals living alone were common and at least three households contained unmarried couples.

Throughout the community, family roles appeared to be stratified along traditional lines insofar as the men conducted the majority of subsistence activities and women were primarily responsible for child rearing. However, men and women both participate in wage employment. In each of the four households discussed above, both partners in the couple were employed in some manner. Within the work force, men participate in traditionally "male" jobs (such as fishing crew members or laborer/maintenance positions) while women work in traditionally "female" jobs (such as health care, child care/teaching, and secretary/clerk positions). Both men and women worked for seafood processors, although few residents engage in this type of work anymore. (This trend away from processing work is discussed more fully under Domestic Economic Structures.)

Two Akutan families in particular appeared to be dominant in the community in terms of being the “doers”, i.e., the people who take initiative and accomplish needed tasks at the community level. Members of these families occupied several of the city, corporation, and other local jobs as well as elected or volunteer board and committee positions. Part of this dominance may simply be a function of these families’ size. Their proportionately higher numbers are reflected in the number of local jobs they occupy. However, this trend may also be partially a function of skills and personality. These individuals are capable of performing the responsibilities and are willing to do so if for no other reason than that no one else is capable or willing. In such a small community, the number of people available to perform community responsibilities is naturally limited. Thus, that these families dominate community jobs and leadership roles is more a function of circumstance than of any attempt on their part to garner control.

Residents indicated that Akutan residents’ kinship ties to other communities within the region included the communities of Unalaska, Chignik, King Cove, Sand Point, and the Pribilofs. Beyond the region, residents had relatives in Anchorage, Homer, and Washington state. Based upon these informants’ reports, it appeared that residents regularly visit and exchange subsistence foods with their kin in other communities. As most current Akutan residents had been born and raised in Akutan, their kin in other communities were generally former Akutan residents who had moved away from Akutan due to marriage, employment opportunities, or other reasons.

In summary, most nuclear families in Akutan belong to one of the eight main extended families in the community, and those families are further interrelated by marriage. Therefore, extended family ties are pervasive throughout the community. Brothers and cousins pursue subsistence activities together; those who lack skiffs and other equipment rely upon their kin who do have the necessary equipment. Sisters and mothers frequently travel between their respective households sharing food, child care, and companionship. Furthermore, most of the current residents have lived in Akutan all their lives and they have grown up with the same few dozen people (many who are relatives) in this isolated village. Consequently, this familiarity has bred a dominant mode of social organization that is highly informal and kin-like.

## Voluntary Organizations

A small number of voluntary organizations exist in Akutan apart from those that are politically oriented (i.e., elected or appointed, such as the city council, the corporation board of directors, and the traditional council; these groups are discussed in detail under Political Systems). Akutan voluntary organizations include the Russian Orthodox Sisterhood, the church committee, the volunteer fire department, and Alcoholics Anonymous. While these organizations are considered formal structures within the community, they actually operate in a rather informal manner reflective of the generally casual, kin-like mode of social organization discussed in the preceding section.

The Russian Orthodox Sisterhood was described by Spaulding (1955:135) as being comprised of "all women of the village eighteen years and over." He described their functions as caring for the altar cloths of the church, selection of a village midwife to tend to all illnesses, and fund-raising for the purchase of medicines. Other members of the Sisterhood assisted the midwife with health care when needed. Currently in Akutan, the Sisterhood is virtually nonexistent. Only one individual interviewed attested to the group's continued activity, saying she was one of "two or three of us left in the Sisterhood." She further noted that the group had suffered from the passing of older, active members and from disinterest among young women. She explained that she had tried to involve younger women in the Sisterhood "because they have to learn these things." In contrast to her account, the church reader said the Sisterhood no longer existed, as did another woman who participated in most other community groups. Another woman very active in community affairs said, "It's not as functional as it used to be, I guess because of the younger generation."

The midwife/health care role that the Sisterhood once filled has been professionally replaced by A/PIA funding a community health aide and community health representative, backed by the larger medical care system available to Natives through Alaska Native Medical Services. In a recent community survey (Akutan Coastal Management District 1984), virtually every respondent suggested improvements to the current local health care such as obtaining a better health

aide and better medications, getting a resident doctor or nurse, getting an Xray machine, and having more frequent visits by eye doctors and dentists. This nearly unanimous dissatisfaction with health care in Akutan reflects a higher level of expectation for health care than an entity such as the Sisterhood could currently provide; in this capacity, the Sisterhood's role has become obsolete.

With regard to the Sisterhood's other function of caring for the altar cloths, this task is probably performed adequately and informally by the two or three women who remain of the Sisterhood. Thus, it appears that this organization is perpetuated in a very informal, vestigial form by the few older women remaining from the organization's more active era. It appears that efforts to enlist younger women's participation in the group are minimal and are met with generally low levels of enthusiasm at the present time. Finally, the younger women interviewed and the church reader consider the Sisterhood inactive which suggests that its role in the community is currently negligible.

A church committee was formed about two years ago, according to one resident, to raise funds for the church. The committee is made up of five members. However, like the Sisterhood, this group apparently does not generate much activity. One member of the committee said, "It was good at first and then it faded. The idea was to try to make money for the church through bake sales, carnivals, and things like that, but we never got anything going." A committee member does sell items at church services such as candles and religious pictures as a means of raising funds. This money is contributed toward church improvements such as new carpeting and paint.

The Volunteer Fire Department is the only other voluntary organization identified in Akutan. Efforts to identify membership in this group were met with the response that the whole town is the Volunteer Fire Department. Thus, it appears that this group is formally organized to be prepared for fires, but participation in the group is expected from all residents in the case of an emergency. The VPSO is responsible for overseeing fire preparedness in Akutan. If equipment is needed, he presents the need to the city council at their monthly meetings. Currently, however, the town's fire fighting equipment is sufficient.



An Alcoholics Anonymous (AA) group was started in Akutan this year by a local woman and her non-Native husband. They had moved away from Akutan for some time and returned in the summer to work on the school construction. They announced weekly AA meetings on Friday nights at 7:30 at the library and despite low response, continued to offer the meetings throughout their stay in Akutan. The husband, who was the primary organizer, noted that only one person consistently attended the meetings in addition to themselves. Other individuals had attempted to attend regularly but according to the husband, peer pressure ultimately kept them from continuing with the program. Another reason for the program's low acceptance may have been that it was instigated by this man, who was considered an outsider even though he was married to a local woman. This couple reportedly left Akutan at the end of the summer; it is unlikely that AA will continue in Akutan without their involvement. Consequently, AA's presence in Akutan was short-lived and of minimal impact to the community.

#### Other Forms of Social Organization

In addition to kinship and voluntary organizations, other social organizational structures are evident in Akutan. For example, the role of the church as a community organizing force is described in the following paragraphs, as are other formally and informally organized recreational activities. In addition, the study team identified dynamics that influence social organization within Akutan that are elaborated upon below.

#### Russian Orthodox Church

While not an indigenous religion, the Russian Orthodox Church has become an integral part of Aleut life since first introduced to Aleuts in the late 1700s. The Russian missionaries and other government representatives had persuasive means of inducing Aleut participation in the church. However, Veniaminov, a Russian missionary who lived in Unalaska from 1814-1828, explained that pressures to join the church were not met with great resistance. He believed the Aleuts eagerly adopted the religion for a number of reasons, including the dissatisfaction with their aboriginal beliefs. Veniaminov (in Petroff 1884:156) stated,

The contempt in which the shamans were held [due to their ineffectiveness in the face of extensive Russian-introduced diseases] facilitated the work of the mission. Any other stronger reason inducing the **Aleuts** to accept their faith I cannot find. It is true we may say the **Aleuts** accepted Christianity because they had only a very vague and unsatisfactory belief that did not satisfy the demands of their souls, and that they had reason to fear the Russians and were eager to please them; and, third and last, because the acceptance of Christianity exempted them from the payment of tribute. All these reasons may have induced them to change their faith, but certainly could not make them the earnest observers of its rules that they are.

For whatever reasons they may have accepted the religion initially, Russian Orthodoxy is now an inseparable part of modern **Aleut** culture. As discussed earlier, sources indicated that construction of a church in **Akutan** was an incentive for initial settlement of the community by **Aleuts** from surrounding islands in the late 1870s (**Spaulding** 1955; ADCRA 1983). Thirty years ago, **Spaulding (1955:134-5)** wrote,

The church is the most unifying institution in the village of **Akutan** today. Membership is village wide and most of the **Aleuts** attend the services most of the time. Major and minor factionalism that exist in other aspects of village life do not exist within the framework of participation in church activities. For the people of **Akutan**, village membership is coincident with church membership.

The Russian Orthodox Church is still the only religious organization in **Akutan**. No priest resides within **Akutan**; however, a local man is a church reader and conducts services two to three times per month, or approximately every other weekend, with vespers on Saturday evening and a service on Sunday morning. He also holds services on church holidays that occur on weekdays. Two to three times each year, the priest for this district (from False Pass to Atka, headquartered in **Unalaska**) visits **Akutan** to conduct special masses such as burials and baptisms. He was expected in **Akutan** the week following the field visit "for no particular reason - he probably just has something on his mind he wants to say to the village in his sermon, and he will give communion," the **Akutan** church reader explained.

According to the reader, "The church is doing pretty well." One local resident estimated that about eighty percent of **Akutan** residents attend

church, and another said that everyone attends. The reader noted, however, that attendance was down this summer because so many people were working; several residents were working six days a week at construction, leaving little time for subsistence and other everyday chores. Apparently, then, increased employment in the community can have a direct affect on other activities such as church attendance. When queried about fund-raising activities to support the church, he stated that there is no Sisterhood or other fund-raising activities, **and** that money is raised through collections at the services. Another resident added that there is a collection jar at the bar for patrons to deposit church donations. The present church structure, originally built in 1879 and reconstructed in 1917, requires occasional repairs and renovation. The city provides for some maintenance (including supplies) and upkeep of the church, as do volunteers. Perhaps the involvement of this government structure is a carry over from a situation described by **Spaulding** in 1955 in which the **village** chief, then the **local** governmental leader, took **the lead in church** maintenance due to the absence of a Brotherhood. **Spaulding** (1955:135) wrote,

Maintenance and upkeep of the church physical **plant** is considered to be a village wide activity, involving **all** able-bodied **males**...**There** is no Brotherhood **per se** in the village at the present time. As a result, leadership in the care and maintenance of the physical plant **falls** to the chief rather than the president of the Brotherhood, as was the case formerly when the Brotherhood was a body consisting of most of the adult males in the village

Despite continuing church activity, the strong unifying **role** of the church, as described by **Spaulding** (1955), is not readily apparent. Some residents indicated the church is not as important an institution as it once was in **Akutan**. The diminishing activity of the Sisterhood and the church committee appear to reinforce this observation. Interviews also indicated that a church reader who was an important and strong leader in the community died in the early 1980s, leaving a void that has not been filled. The present reader said, "If I die, I don't know what will happen with the church," as no one else in the community is trained to conduct services and no one has indicated interest in learning the role. One individual recounted,

I went to church one Sunday and nobody else came - just me and my daughter, the reader and two members of the church committee. I guess most people go Saturday night since they might be hungover on Sunday morning. It seems like the church is "just there" nowadays. It used to be more important. I remember my father standing all of us girls in a line and making us learn Russian from a big book for church.

Should these observations suggest that the church is becoming obsolescent, it is important to recall that Russian Orthodoxy has a long and strong tradition among the Aleut people. While certain aspects of the church may be diminishing or evolving, a brief study such as this cannot extrapolate from the above changes that the church as a social organizing force has declined in importance. The church has been traditionally so pervasive and integral a part of village life that we must assume it retains an important (though perhaps not conspicuous) position in the community.

#### Recreational Activities

The city maintains a building in Akutan that is designated as a community hall or recreation center with a part-time director who is hired by the city to operate the facility four hours a day. The center has a pool table, two video games, and offers bingo on Thursday nights and Sunday afternoons. In addition, candy, popcorn, and soda pop are sold there. Occasionally children's movies are shown. Bingo is reportedly the activity that draws the largest crowd to the recreation center, with a consistent core group of residents, predominantly women, who play bingo together regularly. The recreation center director also noted that processing workers off the Akutan (a floating processor) are his "best customers" when that ship is in town, as they spend considerable time (and money) playing pool and video games.

The local bar, the Roadhouse, is another recreational gathering place. According to one source, the state issued the liquor license for this bar in spite of protests from villagers. The bar was established in the late 1960s by a man who does not currently live in Akutan. However, his sons reside there and manage the bar which is open Monday through Saturday from 7:00 p.m. until 2:00 a.m. The bar originally sold hard liquor and beer. However, in the 1970s, the long-time village chief suggested that the bar

stop selling hard liquor because, according to current residents, he believed it was having too negative an impact and would ultimately "kill the village." Town residents supported this move and as a consequence of this action, the bar now sells beer only.

Residents indicate that the bar is always crowded, particularly when one or more of the floating processors are in the harbor. Some residents were unhappy with the effects of the bar, saying that children are left unattended some nights when their parents are at the bar. A city official had been told that cases of beer were sold from the bar on several occasions recently, in violation of the liquor license. The city was taking a tough stance on this infringement in an effort to stop it. A 1983 study (ADCRA 1983) observed that the focus of many social gatherings had shifted from the home to the bar upon the bar's establishment. A school administrator further added that Akutan is the only small village (i.e., under 100 residents) of many he has worked with that has its own bar; he believed its presence created problems that most towns this size did not have. On the other hand, the ADCRA (1983:17) study stated that while elders considered alcohol a major threat to the community, they favored the bar to the extent that "it brought drinking out into the open, concentrated the drinkers at one location, and provided process workers with a place to go other than coming into the community."

#### Festivities

Akutan residents observe several special occasions with community-wide celebrations. At Christmas, the Community School Committee sponsors a Christmas play and gives presents to all the children. A donation jar at the bar raises money for this event, and some of the processors contribute food to the celebration. During Russian Orthodox Christmas, the community engages in the traditional customs of starring and masking, both of which entail ritualized house-to-house visits by a group of celebrants. Those not part of the visiting group participate in the celebration by receiving the roving group in their homes. In addition to the Christmas production, the Community School Committee also hosts a party for the school children at the end of the school year. Halloween and Easter are celebrated with community-wide parties, and the Fourth of July is celebrated with a big

barbecue including games and prizes. The town invited the processors to the Fourth of July barbecue last year. Thus, in addition to unifying the community, these festivities also provide an opportunity for the village and the processors to cultivate a friendly relationship.

### Social Dynamics

Social interaction between the processors and the villagers raises another aspect of social organization. The presence of a largely non-Native industry in and around a small, Native community has resulted in some social dynamics that merit brief mention. During the crab boom in the late 1970s to early 1980s, 10 to 12 processors were moored in the harbor. Combined with the Seawest plant located in the village and Trident's shore based plant 1/4 mile away, up to 1,000 workers would be present in the immediate vicinity of Akutan at one time. An individual who formerly worked with the City of Akutan in 1981-83 described the village during this time:

The impact of all those workers was tremendous. Even though they weren't right in town, you could see them from town. The residents felt swamped and overwhelmed by this onslaught, and felt they didn't have control of their community. Skippers tried to minimize the impact of processors on town by allowing only one skiff load of workers into town at night, but still it was significant.

Another individual who worked with Akutan as a social worker during that same period said,

There was only one phone in town at the time, and when it was working the residents complained that processors used it constantly. They didn't like this but they didn't want to be **confrontive** or negative. One of the village leaders said to me, "How can we tell the processors to stop tying up the phone when they keep everyone working?" A lot of the changes they faced caused big problems. The processors brought drugs and parents would ask me how to identify different drugs and associated behavior. Kids were exposed to a lot and did a lot of acting out. Villagers liked the bar, liked the benefits of having the processors around, and they weren't afraid to try anything. All of this produced some strong feelings, but without knowing how to be **confrontive**, they didn't know how to have all this and deal with it. There was a lot of violence because of all this. It was a wild town.

These accounts indicate that the circumstances arising from this intense industrial effort occurring in the immediate vicinity of Akutan were difficult for the village to deal with on two levels. First, the community was frustrated with wanting the benefits of the development (e.g., revenues and jobs) but not wanting its negative effects. Residents stated during field interviews that generally the locals and the processors got along satisfactorily during that period, despite unhappiness with the overwhelming numbers of people, the threat to subsistence resources from processors polluting the harbor, and the Seawest management that took over the old Wakefield operation in town, with whom the village had had an excellent relationship for many years. Except for mostly alcohol related incidents, overt hostilities between villagers and processors were minimal. Nevertheless, villagers were reportedly relieved when the majority of the processors left and residents regained control of their community. Interviews indicated that currently local residents and processors get **along well** (aside from occasional alcohol related confrontations), and the above accounts of social interactions between the village and the processors are indicative of this.

A second level of difficulty arising from intense circumstances during the crab boom occurred internally within the village. In an isolated village, the exposure to new influences and the changes they wrought conflicted with traditional ways. As one source reports (ADCRA 1983: 16),

Major reorganizations have occurred in social relationships between older and younger individuals, and in the established roles for men and women. While these changes are not so different in kind from the changes which have generally occurred in American social patterns over the last several generations, the degree of change in Akutan has been much greater. Consequently, the "generation gaps" experienced in the community are even greater than those experienced throughout contemporary American culture.

Following the decline of the crab industry, as Akutan was settling back into a quieter, less disruptive setting, three village elders who were important community leaders passed away. One of the deceased had been elected third chief of the village at age 17, became second chief at 28, and first chief at 48, a position he held from 1956 until his death in 1982. From all accounts, he provided strong leadership during this difficult period by perpetuating

traditional **values** while dealing with change. Another individual who died had been the midwife and health aide for many years and was known for her efforts to preserve **Aleut** culture. The third individual had been the church reader for many years. Each of these individuals filled special niches in the community **and** each of their deaths was difficult for the village to deal with, according to one source.

Thus, a period of disruptive change was quickly followed by the deaths of several respected traditional leaders. The scope of this study is not sufficient to fully analyze the changes that have occurred in Akutan in the last decade. However, by documenting some of the social dynamics occurring during this period, it is hoped that a context is provided for better understanding the community today.

#### Values Pertaining to Social Organization

Despite considerable change in the community, many traditional values relating to social organization persist. The importance of the family remains very strong in Akutan. Considerable sharing, visiting, and other interaction take place between the households of kin. As discussed under Kinship, the small size of the village and the high level of **interrelatedness** results in an overall social organization that is highly kin-like and informal. This way of life appears to be valued by residents.

The church has traditionally filled a socially unifying role in the community. The strength of the church in this capacity reflects the power residents accord to the church and the importance of the church in their lives. While significance of the church appears to have declined somewhat, it nevertheless remains an important and valued element of Akutan society.

Communal sharing is extremely important to Akutan residents. With a limited number of skiffs in the community, subsistence harvests are typically shared among all households. An individual indicated that one skiff owner did not share his harvest very much; consequently, he was not well liked in the community. Thus, residents will censure those who do not espouse the locally held value of communal sharing.



## Summary

In conclusion, Akutan social organization is very informal. The family is the fundamental and the predominant form of social organization. A majority of households are nuclear family households, however these families are members of a few large extended families comprising the population of Akutan. Thus, kinship ties throughout the community are pervasive and strong. Formal social organizations appear to have declined from the level of importance they once held in the community. Disruptions occurring during the peak of the crab industry in Akutan caused some upheaval in the traditional social organization of the community and introduced changes. Despite those changes and the loss of several traditional leaders, Akutan retains many of its traditional social values.

## Domestic Economic Structures

This section focuses on local residents' attitudes toward and perceptions of the economic structures functioning in Akutan. Akutan's local economy has been previously described (see Akutan Local Economy). Consequently, this discussion considers how changes in the local economy have affected elements of the sociocultural system operating at the individual and household level. Because of the lack of historical data, the primary source of information for this discussion is the 1985 field interviews with local residents who have lived in Akutan long enough to identify trends of change in their community. The discussion is divided into three topics: patterns of local economic opportunity, patterns of household economy, and subsistence dependence. For each subcategory the discussion will describe how major economic changes have influenced the relevant cultural structures. In addition, local residents' values as expressed in their responses to these recent and ongoing changes will be described.

### Patterns of Economic Opportunity

In this subsection income opportunities for Akutan residents are considered, including a discussion of the factors which influence participation in economic opportunities, access to these opportunities, and future trends. Income

opportunities for Akutan residents, including the number and types of local jobs, have been discussed previously (see Employment). Historically, seasonal employment in the processing industry was the major source of income for Akutan residents. In the past 10 years, however, employment opportunities have diversified.

Permanent salaried employment opportunities are available to Akutan residents with the City of Akutan, the Akutan Corporation, A/PIA, the Aleutian Region School District (seasonal) and the federal government (post office). Seasonal wage employment is available from a number of fish processing companies operating in Akutan Bay as well as the city, the village corporation, and the school. Monies for recent and ongoing capital improvement projects that offer both skilled and unskilled temporary employment are primarily channeled through the institutions mentioned above. Akutan residents also participate in commercial fisheries, primarily as crew members on non-local crab and salmon boats. Transfer payments provide a final source of income to Akutan residents.

#### Income Opportunities

Despite what initially appears to be extensive local employment opportunities, Akutan residents do not consider current employment options adequate. Field data and previous research efforts in Akutan (ADCRA 1983) indicate that current perceptions concerning employment in the community are largely a function of three events that occurred in the 1970s: ANCSA in 1971, the boom in the effort and value of the Bering Sea king crab fishery, and the incorporation of Akutan as a second class city in 1979. In combination, these events increased the number of resident job opportunities available within the community that were not directly related to seafood processing. In addition, local residents' attitudes and perceptions toward employment changed as a result of exposure to these more diverse and localized job opportunities. These changes are described and explained in the following pages.

First, the passage of ANCSA in 1971 resulted in the formation of the Akutan Corporation. With a cash settlement of \$625,000 over a period of 10 years and surface rights to 92,160 acres of land (see Land Use), the community was in a position to offer its own residents employment opportunities for

the first time. In addition, “the people in Akutan began to consider their relationship to the processing industry from a less dependent perspective” (ADCRA 1983:24) because of potential alternatives associated with forthcoming land and money.

The second factor influencing local residents’ perceptions and attitudes toward employment was the boom in the crab industry experienced in the region during the latter part of the 1970s and early 1980s. Beginning in the mid-1970s, Akutan Harbor became increasingly popular among crab processing factory ships because of its proximity to the crab grounds and the relative abundance of fresh water necessary for processing (ADCRA 1983). The high value of king crab generated higher crew shares for Akutan crew members while the “increase in process activities in the harbor motivated the residents of Akutan to incorporate in 1979 as a second class city” (ADCRA 1983:24).

Akutan’s municipal incorporation allowed residents to levy a 0.5 percent sales tax on raw fish products purchased in the harbor. Incorporation and tax revenues further increased in the City of Akutan’s role as a major employer in the community and were key forces in the direction of economic development taken by the community.

These events combined to provide local employment opportunities other than seafood processing for the first time in Akutan’s history (e.g., construction, city, and corporation jobs). Processing, which had been the main form of resident employment in Akutan for decades, required long hours of laborious work for low wages. The new employment options were generally better paying, less tedious, and did not require the long hours associated with seafood processing. Local attitudes toward the seafood processing industry were further compromised in 1979 when there was a change in ownership of the processing company at the west end of town (ADCRA 1983). Poor relationships with the new owners resulted in local residents switching employers to the floating processor moored in the bay. Thus Akutan residents were commuting out of the village by skiff instead of walking to the end of town for work. It is not surprising, then, that local Akutan residents perceptions toward employment and the desirability

of various employment options changed. Field observations suggest that Akutan residents currently regard employment opportunities on fishing crews and with the village corporation and the city to be considerably more attractive than those offered by the processors.

During the same period that these new resident employment opportunities were developing in **Akutan**, local residents working as crew members on the crab boats began receiving better pay. Although crew percentages did not necessarily increase, the high value of king crab in the marketplace during the last few years of this fishery increased both the value of the catch and the value of the crew shares paid. Akutan residents who participated in this fishery at that time saw a dramatic increase in the amount of money they earned for their efforts. Consequently, the value of crew shares during the last few years of the king crab fishery was higher than the crew shares now being paid because crab stocks and the crab industry in general are currently depressed. The peak years of the king crab fishery (1979-1981) also had the net effect of raising Akutan residents' expectations concerning what they desire from employment.

Participation in, and observation of, these new job opportunities have influenced local residents' attitudes toward current employment options and future sources of employment. Field interviews with Akutan residents indicate that their perceptions and attitudes toward employment opportunities vary among the major job types. Current income opportunities for Akutan residents can be divided into three categories: onshore and offshore processing, other forms of resident employment, and commercial fishing. Akutan residents' attitudes and perceptions related to each of these categories are summarized below.

**The Processing Industry.** In **Akutan** the processing industry is represented by both floating processors and onshore facilities. A detailed discussion of this industry, including number of employees, species processed, and future development plans, is presented in **Local Economy**. Employment is generally seasonal and only one local resident was known to be working in the processing industry during fieldwork for this study (July 1985). Interviews indicated that five to six residents had worked at the beginning

of the season and that all but one local had quit. As many as eight local residents worked for the processors during the summer of 1984 (Akutan Coastal Management District, 1984). Current participation levels are clearly lower than the 25-30 residents who were employed in the processing industry in the 1950s (ADCRA 1983). As discussed above, processing is no longer considered a desirable form of employment by most Akutan residents. As one resident stated, "I worked for ten years [on processors, and] after not working there for five years I tried to work there again but couldn't stand it anymore." Participation in processing at the present time appears to be focused among young adults who are interested in obtaining a little pocket money. As a consequence, participation is rarely consistent or long term. As one resident noted: "they [the processors] make an effort to hire locals; [there are] job openings all the time but locals don't want to work there." The attitude shared by the majority of Akutan residents is summarized by the following comment:

"Not too many [locals] work for processors anymore...from 1978 to 1981, we all worked for processors. We were all around 19-24 years old. Then we all stopped - got tired of it. You worked 18-20 hours a day."

Akutan residents who have worked recently in the processing sector expressed distinct preferences for some processors over others.

Resident Employment. Attitudes toward all local job opportunities, except for jobs previously discussed in the processing sector, are considered here. Opportunities for Akutan residents include both permanent and temporary jobs. The primary local employers are the City of Akutan and the Akutan Corporation, but resident employment opportunities also exist with the Aleutian Region School District, A/PIA, and the federal government. Perceptions toward resident employment are represented by the following comments.

People here are always looking to the city for jobs.

If we need repairs or odd jobs, like boardwalks, buildings, paint jobs, and so on, we hire someone from the village, anyone who can do it.

There is no such thing as jobs around here - just little chores.

There are just a couple of jobs at the school for locals.

People don't want to work under the intense construction schedule in summer when there's so much else to do.

As these comments suggest, currently not enough desirable jobs are available for Akutan's entire **workforce**. While local residents noted that the number of local jobs in the summer of 1985 was above normal (due to summer construction), there is evidence that the issue of local employment opportunity is an ongoing concern. Conflicts revolving around both seasonal and permanent resident employment are discussed later in this chapter under Employment Needs and Conflicts.

Commercial Fishing. As described in detail in Local Economy, Akutan Harbor has, in recent years, been one of Alaska's largest fish processing centers. Commercial activity has revolved primarily around crab and bottomfish; the harbor is occasionally used by nonresident salmon fishermen for pink salmon fishing and as a place of refuge from bad weather. The waters adjacent to the community are currently open to commercial fishing use. Proximity to the rich fishing grounds of the Bering Sea is the major reason for Akutan's involvement in the fishing industry. Despite the prominence of commercial fishing in the area's economy, there are currently no locally owned commercial fishing boats and Akutan residents' participation has been primarily as crew members on the transient boats fishing the area's rich waters. During the boom years of the crabbing industry, many local residents were able to get crew member jobs when "outside boats would come here looking for crew." Crew participation during this period allowed Akutan men to become experienced crab fishermen. The cost to Akutan residents of entering the commercial fisheries is currently prohibitive and "would require an extensive educational process for prospective skippers and crew before the participants could expect to maintain a safe and profitable fishing enterprise" (ADCRA 1983:28). While Akutan cannot be described as a fishing community, local residents are generally supportive of the commercial fishing industry and are also strongly supportive of the development of a small boat harbor in Akutan Harbor (Akutan Coastal Management District 1984). Furthermore, commercial fishing is a respected and preferred

occupation among Akutan men, many of whom consider themselves commercial fishermen despite the inability of some to secure crew positions in the 1984-85 crab and salmon seasons.

Field data indicate that participation in the commercial fisheries as crew members has declined in recent years. Because there are no commercial fishing vessels owned or operated by **Akutan** residents, individuals who wish to participate in the commercial fisheries must either travel to a [redacted], community that has a commercial fleet (e.g., Unalaska, False Pass, or King [redacted] Cove) or they must hope that a commercial vessel in need of a crew will visit the community. The depressed status of the crab fisheries at the present time, especially the shorter seasons and smaller number of participating boats, has resulted in fewer opportunities for **Akutan** residents in these fisheries. During the 1984-85 crab season, three men **crewed** the full season and in **the** 1985-86 season, five men obtained full season crew positions and others worked intermittently on crab fishing [redacted] boats. Two **local** residents were able to get crew positions for salmon fishing in 1985 (one with a relative) but generally local residents were unsuccessful in obtaining work on salmon crews. As one Akutan resident noted, "At the beginning of the [salmon] season four men went to King Cove to try to find crew jobs, **but** they didn't have any luck." Finally, some Akutan residents who previously **were** actively involved in commercial fishing (even to the extent of acquiring gear and permits) have now opted for employment opportunities in the community. [redacted]

#### Employment Needs and Conflicts

Recent increases in local economic opportunities have not solved all employment problems in **Akutan**. Local residents' concerns related to employment were divided into two major categories based primarily on current employment status. Residents currently employed identified time conflicts between their jobs and other activities as their major concern. Those residents who were unemployed expressed the desire for more employment opportunities for Akutan residents and specifically noted conflicts related to importing labor into the community. This section presents employment needs as identified by local residents and conflicts between employment and other social, economic, and cultural activities that [redacted] require local residents' time and energy.

Since the time of incorporation as a second class city (1979), there has been a considerable increase in the type and number of local jobs available in **Akutan**. The construction and subsequent maintenance of the numerous community facilities and services in Akutan has provided locals with both seasonal employment opportunities as well as permanent staff positions. While there have never been enough permanent jobs for all members of **Akutan's** work force, the labor force participation rate of 58 percent is higher than that of many other southwest Alaska communities (see Employment). Despite the increased permanent employment, field interviews indicate that many Akutan residents (primarily males) prefer the temporary employment offered by construction activities rather than full-time, year-round work.

Comments from Akutan residents suggest that there continues to be some under-employment in the community, particularly in seasonal construction jobs. The importance of this type of employment was exhibited by local residents in the summer of 1985 when expected local employment opportunities did not materialize on a major expansion to the community school. While some local residents were hired as laborers, the majority of the construction crew were non-local workers. As one local resident stated: "the whole town was irate about not hiring more locals." Local residents stated that they were given the impression that jobs would be made available for locals by the Aleutian Region School District, but few jobs materialized. This conflict was repeatedly cited as a point of frustration among Akutan residents who believed that they deserve preferential treatment on projects occurring within the community.

Concerns of employed Akutan residents focused on conflicts that employment had caused in social and family activities. Employed individuals cited difficulty finding baby-sitters and the lack of free time as problems caused by their jobs. **Akutan** residents have lessened these conflicts by establishing alternates for all permanent positions. If an employed resident desires to go on vacation, he or she simply must arrange with his or her alternate to cover for them while they are gone. Conflicts arising between employment and subsistence activities are discussed below (see Subsistence Dependence).



### Attitudes Toward Development

Table 4-12 presents Akutan residents' responses to a variety of development questions. While it is impossible to predict actual future participation levels by Akutan residents in the various employment sectors, the responses of local residents to the different types of development provide an indication of general attitudes toward the different sectors. By considering these data in comparison with the field data, some assumptions can be made considering the willingness of local residents to participate in associated employment opportunities if they arise.

As indicated in Table 4-12, local residents were strongly supportive of the fish and fish processing industry as well as local hydroelectric power. The high percentage of local residents who were in favor of this type of development is likely the result of the community's previous experience with these industries. Akutan residents realize that the fishing and processing industries form the tax base of the community as well as provide employment opportunities for interested residents. Residents' support of local hydroelectric power is likely the result of previous experience with the cost efficiency of this type of power. Judging from current attitudes and participation levels in the fishing and fish processing industries and the relatively few temporary and/or permanent jobs that would be created by a return to hydroelectric power, these industries are not likely to attract and subsequently support a large number of Akutan households.

The majority of Akutan households were also supportive of oil and gas development. Interview data collected for this study suggest that this support stems from a desire for jobs in this industry. As one respondent noted: "I asked some of the younger boys about working on a drilling rig. They said they would be interested in working on one if they had the training." Local support does not appear to extend to actual production platforms in the vicinity of the community. This attitude is summarized by a representative of the City of Akutan who said, "I think people would be willing to go to Unalaska to work for them [oil industry] but nobody wants them here." The number of local residents who would actually seek employment in the oil industry would be dependent on the location of the employment and the work and leave schedules adopted by the industry.

TABLE 4-12: ATTITUDES TOWARD DEVELOPMENT, AKUTAN 1984

<u>Number of Responses</u>	<u>Do you Favor the Following</u>	<u>Yes</u>	<u>No</u>
26	Tourism in <b>Akutan</b> and <b>Akutan Bay</b>	58%	42%
28	Fish and Seafood Processing	89%	11%
26	Mining and Mineral Processing	39%	61%
28	Local Hydroelectric Power	89%	11%
26	Oil and Gas <sup>1</sup>	62%	38%

1. Further qualification of this question revealed that a majority of respondents preferred that oil and gas facilities and support facilities not be situated within **Akutan Bay**.

Source: **Akutan Coastal Management District (1984), Coastal Management Program Second Akutan Community Survey.**

Previous studies on the North Slope suggest that when local employment options are available, local residents will not seek employment outside the community as local employment enables individuals to both work and participate in local subsistence activities (Braund and Burnham 1983). Fieldwork in Akutan supports this observation while suggesting that, if sufficient local job opportunities are not available, Akutan residents would seriously consider employment in the oil industry. The availability of most subsistence resources throughout the year would provide local residents adequate opportunities to harvest the desired amount of subsistence resources. Finally, field data also suggest that Akutan residents are attracted by the high wages offered in the oil industry.

### Patterns of Household Economy

This section describes current household economic patterns in Akutan. Specifically, household economic arrangements and perceptions of economic well-being are considered. The discussion of income and expenditures for goods and services by Akutan households forms a useful link between the previous discussion of economic opportunities and the discussion of subsistence dependence that follows. Of equal importance to the understanding of household economic patterns is the analysis of local residents' perceptions of household economics, including housing needs and desires.

#### Household Economic Arrangements

As mentioned previously under Local Economy, the average household income in Akutan is estimated to be \$900 a month (\$10,800 per year). Individual household income in Akutan is highly variable depending on employment status and/or dependence on the various aid programs available to local residents (e. g., AFDC, Longevity Bonuses [Pioneer Benefits], Disability Insurance, and various retirement programs; see Table A-1 in Appendix A). Thus, annual household income is estimated to vary between \$5,000 dollars (for a household of one whose member does not have permanent work and does not qualify for retirement benefits) and \$36,000 (for a household that includes two full-time wage earners).

Average household expenditure data, expressed as a percentage of average household income, is presented in Table 4-13. These estimates are based on local residents' estimates and other field data collected for this study. It should be noted that these figures represent the typical Akutan household and that individual expenditures range widely above and below this average. Individual household expenditures depend on variables in household characteristics such as: employment status, the number of occupants (including the ratio of adults to children), and the level of participation in subsistence activities. Thus the data in this table should not be construed to represent any one household but rather be representative of typical household patterns.

When both grocery and subsistence costs are combined, Akutan households spend almost half of their annual income to meet food requirements. Grocery purchases and subsistence related expenses comprise 33 percent and 15 percent, respectively, of the average Akutan household's yearly expenditures. It should be noted that the proportion of store-bought food to subsistence food differs among individual households due to a variety of factors including income levels, household size and composition, and individual preference. In addition, field data suggest that the dependence on subsistence foods varies seasonally. The greatest subsistence reliance occurs in the summer when the combination of resource abundance, long daylight hours and good weather provide Akutan residents with excellent harvest opportunities. Reliance on store-bought food is consequently lower during the summer months. In addition, field interviews suggest that most groceries are purchased at the local store and only one Akutan household regularly purchases food from outside of the community. Finally, as will be discussed below (see Subsistence Dependence), Akutan households are able to get the desired quantity of subsistence foods, even though not all households own the necessary subsistence harvest equipment and/or participate in subsistence activities. Thus, the percentage of household income spent annually on subsistence varies from zero in households that receive all their subsistence foods through sharing, to over \$3,000 in the households that incur annual costs, as well as initial purchase costs, for the full complement of harvest equipment.

TABLE 4-13: ESTIMATES OF AVERAGE YEARLY HOUSEHOLD EXPENDITURES -  
AKUTAN, 1985

<u>Expense Category</u>	<u>Average Yearly Expenditure (\$)</u>	<u>Percent of Total Expenditures</u>
Housing	950	9
Electricity	1,020	9
Fuel Oil	1,030	10
Household Items	500	5
Clothing	500	5
Travel	800	7
Entertainment	800	7
Groceries	3,600	33
Subsistence Expenses <sup>1</sup>	1,600	15
Commercial Fishing	0	0
<b>TOTAL</b>	<b>10,800</b>	<b>100</b>

1. Subsistence expenses include annual costs of fuel and ammunition as well as the average annual cost of subsistence harvest equipment (e.g., skiffs, outboards, rifles, etc.)

Source: Field interviews (1985)

Akutan households spend an estimated average of nine percent of their yearly income on house payments. Of a total of 27 occupied houses in the community, 16 require rent or mortgage payments and 11 are fully owned. Annual household expenses actually vary from zero for those Akutan residents who live in the older, fully owned structures to over \$2,400 for those residents with high incomes living in new housing. Hence, the actual payments of those households that are currently making mortgage payments are approximately 50 percent higher than the community average for this category.

Most of the families with mortgage payments are those living in the new (1982) homes constructed by AHA. Qualifications for receiving one of these homes under the Mutual Help program specify certain income criteria. The program is designed to serve lower income families, yet each household must be able to meet a minimum monthly payment (approximately \$1 10) which, combined with average utility costs, cannot exceed 25 percent of the household's income. Those who can afford more than the monthly minimum payment are encouraged to make higher payments, thereby building their equity more quickly. By averaging these low mortgages with the fully owned homes (zero payments), the overall average community housing cost (nine percent of incomes) is low.

Utility bills, an expense incurred by all households, require a larger portion of household expenditures than housing costs. Fuel oil and electricity bills account for 19 percent of household expenditures and are paid to the City of Akutan, which owns and operates the utilities. The high cost of these utilities is a major factor behind local residents' desire to return to hydroelectric power.

Travel and entertainment expenses each account for approximately seven percent of household expenditures. Typical entertainment expenditures include: bingo, pool, and drinking at the bar. Travel expenses may exceed the \$800 figure listed above, but these are often deferred as business-related and therefore are not included in the household budget. Household items and clothing each represent an estimated five percent of household expenses and account for the remainder of annual household

expenditures. Commercial fishing expenses are negligible because of the absence of a resident commercial fishing fleet. However, occasional expenditures for this activity occur, particularly related to traveling to and from fishing communities.

#### Household Goals and Future Prospects

The construction of 16 new houses in Akutan during 1983 allowed many Akutan residents the option of leaving an extended family housing situation to form a new family household. The additional single family homes in the community provided young people the opportunity to be more independent in their living arrangements and economic activities. In general, older people tended to move into the newer homes while younger couples and individuals established themselves in the **older** homes. While field interviews suggested that the availability of new homes attracted a few former residents back to the community, the major result of the new housing was the dispersal of the existing population and a corresponding decrease in the average number of household members.

In economic terms, this transition was not without costs, as the total community value of all housing expenditures increased. In other words, **while** some expenditures (such as subsistence harvest equipment) can be shared among several households, the fixed costs of maintaining and operating a house are now supported by fewer household members. Field data suggest that the ability of **local** residents to support this new housing situation is the result of recent improvements in local economic opportunities. As presented in Table 4-14, **Akutan** residents' housing goals suggest they are willing and interested in continuing this trend toward economic independence as represented by home ownership.

In response to the Akutan Coastal Management District (1984) survey, Akutan residents clearly demonstrated their desire to own their own house, With 83 percent of all respondents stating they would like to own a home and 61 percent stating that more housing was needed, the establishment of more independent housing appears to be a community goal. As discussed previously (see Land Use and Housing), available building sites are currently a limiting factor and may discourage the construction of more new

TABLE 4-14 LOCAL RESIDENTS' ATTITUDES TOWARD HOUSING  
AKUTAN, 1984

<u>Number of Responses</u>	<u>Attitude Toward the Following:</u>	<u>Yes</u>	<u>No</u>
23	Would you like to own a home?	83%	17%
26	Are you satisfied with housing?	58%	42%
23	Is more housing needed?	61%	39%

Source: Akutan Coastal Management District (1984), Coastal Management Program Second Akutan Community Survey.



housing. Nonetheless, these attitudes expressed by Akutan residents demonstrate local confidence in future prospects for the community.

### Subsistence Dependence

In a 1984 survey of **all** Akutan households, over 96 percent considered subsistence activities an important part of their life (Akutan Coastal Management District 1984). Fieldwork conducted for this study confirmed the survey results by suggesting that, on average, Akutan residents receive more than half of their protein needs from locally harvested renewable resources. This discussion on subsistence dependence in Akutan is divided into three categories: first, a general description of current subsistence harvest activities, including species used, harvest areas and **seasonality**; second, recent changes in subsistence patterns including the forces that induced these changes; and third, the relationship between subsistence and other economic structures, including conflicts between the cash and subsistence sectors of the local economy.

### Subsistence Uses

The perennially ice-free marine environment surrounding Akutan provides access to abundant populations of marine mammals, fish, and shellfish. Terrestrial and **avian** resources constitute a smaller portion of the total harvest but have seasonal importance. Small (16 foot) skiffs provide the major form of transportation to subsistence harvest areas. The size of these skiffs limits access to protected waters and concentrates the majority of subsistence harvest activities in a relatively **small** area near the community. This limitation is partially offset by the close proximity of many desired species and by the extensive sharing networks within the community. Subsistence harvest activities are concentrated in the Krenitzin Islands (Figure 4-11) but extend from Unimak Pass to Unalga Island. The majority of subsistence harvests for marine species take place between Akutan and Akun islands.

Marine mammals harvested by Akutan residents, primarily sea lion and seal, constitute a significant portion of locally produced protein. As in the past, whales that wash up on nearby beaches are used when the opportunity

CG-4

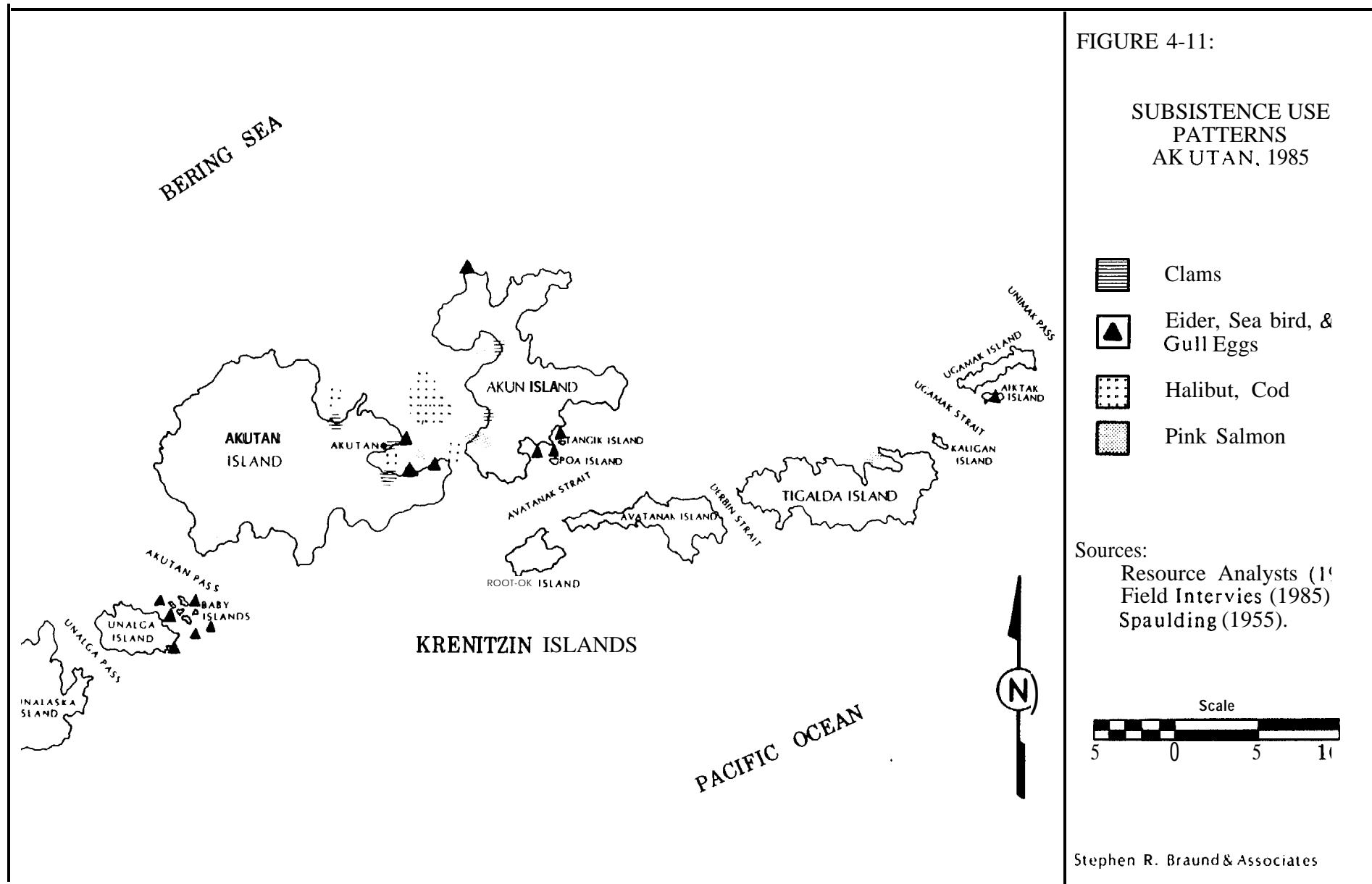


FIGURE 4-11:  
 SUBSISTENCE USE  
 PATTERNS  
 AKUTAN, 1985

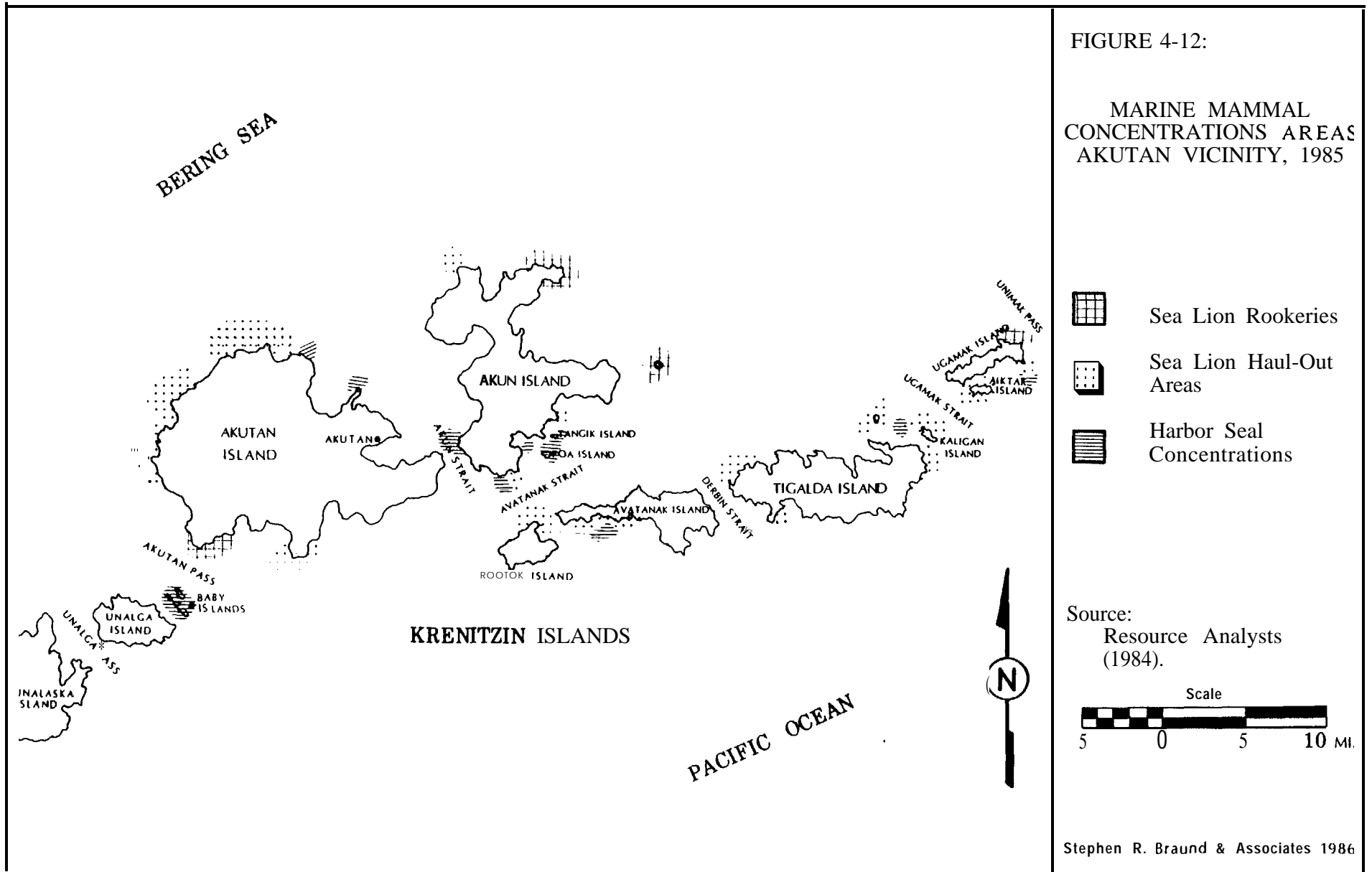
Sources:  
 Resource Analysts (1<sup>st</sup>  
 Field Interviews (1985)  
 Spaulding (1955).

Stephen R. Braund & Associates

arises. Although sea lion populations in the eastern Aleutians have declined in recent years, they are **still** found in large numbers near **Akutan** and remain a preferred subsistence species among community residents. The harbor seal is another preferred subsistence species that is common in the Akutan area. Seal oil rendered from the blubber of both seal and sea lion is a desired food source with many uses. The meat from these sea mammals is generally dried, cut into steaks, or ground. Distribution of sea lion and harbor seal in the **Akutan** area is presented in Figure 4-12. **Akutan** residents harvest sea mammals throughout the general subsistence harvest area as opportunities arise; however, concentrated harvest areas do exist, generally reflecting population distribution of targeted species. Sea lions feed in Akun Strait and Avatanak Strait and haul **up** on a large rookery at Cape Morgan. Harbor seals are found on offshore rocks and in passes separating the major islands of the Krenitzin Islands group. Harbor seal harvest areas are generally concentrated in Akutan Bay and on the south side of Akun Island.

Akutan residents depend heavily on the availability of marine fish and shellfish resources for their subsistence needs. Pink salmon are the most abundant of the five Pacific salmon species that migrate annually through the Akutan area, and provide an important source of locally harvested protein. Other **salmon** species (sockeye, chinook, chum, and coho) are also harvested by Akutan residents but in considerably smaller numbers. In addition to salmon, other marine fish and invertebrates including halibut, cod, flounder, octopus, and clams are harvested by Akutan residents. Dolly Varden, found in both freshwater and marine environments, are occasionally harvested. Marine fish and shellfish are harvested primarily in Akutan Bay and Akutan Harbor, with effort for **salmon** concentrated near the stream mouths. Octopus and clams are harvested along intertidal reefs and flats adjacent to **Akutan** and Akun Islands.

A limited number of terrestrial and a variety of avian resources are harvested by Akutan residents for subsistence purposes. In the late 1970s wild cattle were introduced to Akun Island; the herd currently numbers approximately 150 animals (Aleutian Region School District 1984). These cattle are available to Akutan residents for subsistence harvest. Plant



species gathered by Akutan residents include salmon berries, blackberries, strawberries, blueberries, **crowberries**, **cow** parsnip, and wild rhubarb. These plants are available in close proximity to the community, with the exception of wild strawberries, which are found on the west side of Akun Island. Most other plant resources are gathered in the valley at the head of Akutan Harbor and along hills adjacent to the community. The abundance of berries is indicated by the name of the community, which is derived from the **Aleut** word for **salmonberry**.

**Spaulding** (1955), mentioned white-winged scoter, red-breasted merganser, old squaw, king eider, **Steller's** eider, emperor goose, and willow ptarmigan as important bird species eaten by Akutan residents. The sea ducks were not mentioned as a resource in current use during fieldwork for this study and fieldwork in nearby communities suggests that the use of sea ducks has generally declined in the region (Stephen R. **Braund** & Associates and LZH Associates 1985). Sea gull eggs are frequently gathered as are other bird eggs including those of tufted puffins, king eiders, and **Steller's** eider. Akutan residents hunt ducks and geese **along** coastal areas of Akutan Bay and near streams, lakes, and ponds of Akutan and Akun islands. The east end of **Tigalda** Island is an important location for the harvest of emperor geese that migrate through **Unimak** Pass. Bird eggs, a **highly** desired resource, are gathered over a **large** area that includes cliffs along the shores of Akutan and Akun islands as well as islands in Akun Pass, Avatanak Strait, and **Ugamak** Strait.

Unlike several other communities in the region where residents have access to commercial fishing vessels for subsistence activities, Akutan residents must rely on a small number of skiffs for access to most harvest areas. In general, Akutan residents do not have a distinct seasonal round of subsistence harvest activities due to year-round access to most marine mammal and fish species. However, seasonal harvest patterns are determined somewhat by the availability of species that are only present seasonally, such as salmon, ducks, and geese. Hence, sea lion, harbor seals, and halibut, which are abundant throughout the year, are low harvest priorities during the peak of the salmon run and the height of duck hunting season. Pink salmon are found in large numbers from the end of July until early

September. Bird eggs are gathered in spring and ducks and geese are hunted in the fall. Akutan residents gather berries as the different species ripen from late July through the end of August.

In summary, subsistence harvests by Akutan residents reflect the year-round availability of most marine resources and seasonal concentrations of other species. Though the community is limited by the **small** number of vessels available for subsistence activities, the sharing of harvest equipment among relatives and friends offsets this limitation. Extensive sharing and distribution networks in the community assure that residents receive the desired amount of local foods. The majority of subsistence activity is concentrated in Akutan Bay and the adjacent shores of Akutan and Akun islands. Harvest of specific resources, such as bird eggs, occasionally requires travel beyond this concentrated use area.

#### Forces of Change In Subsistence Use Patterns

Changes in Akutan's subsistence harvest patterns can be divided into two general categories according to the degree of local control or input into these changes. Forces of change occurring from within the community based on the decisions of Akutan residents include: conflicts and competition with wage employment, and changes in harvest equipment and the availability of this equipment. Changes in Akutan subsistence harvest patterns also occur as a result of external forces that are outside the control of local residents. Important external forces of change include natural fluctuations in population levels of individual species, human induced fluctuations in species availability, and regulatory controls. The following discussion focuses on four forces of change with the potential to alter local subsistence patterns: local employment, harvest equipment, resource population fluctuations, and regulatory changes. Each of these forces have the potential to significantly impact a community with such a high level of subsistence dependence.

Local Employment. The increase in community employment options is perhaps the most important force of change in Akutan. Competition from wage employment can affect the timing of subsistence activities, especially harvest of species with seasonal availability. This conflict is most

significant as it relates to temporary seasonal employment such as construction that coincides with the annual timing of certain subsistence activities. While many of the resources that Akutan residents rely on are available throughout the year, some species (particularly salmon and bird eggs) are only available seasonally. The **seasonality** of these resources and the generally good weather conditions of summer combine to make the summer and early fall a major subsistence harvest period for **Akutan**. This timing conflicts directly with the summer construction season, when contractors work extended schedules to take advantage of the long daylight hours and good weather. **Akutan** residents who engage in this type of employment must either rely on other local residents for subsistence foods harvested at this time or they must concentrate their subsistence activities in the evening and on their days off. Most employed residents stated that while their jobs conflicted with their normal subsistence patterns they were still able to harvest the desired quantity of subsistence foods.

Other employment activities have the potential to influence subsistence patterns. Those local residents who seek employment on commercial fishing boats during the salmon and crab seasons must **also** coordinate their subsistence harvest activities with this type of income opportunity. In addition, Akutan residents who obtain employment in the processing industry could potentially be busy during the important subsistence harvest periods such as the height of the pink salmon season. Other types of employment in the community, such as the odd jobs offered by the city and/or village corporation, are either of short duration or part-time and therefore do not present the same conflicts with important subsistence harvest activities as intense wage employment.

**Subsistence Harvest Equipment.** Equipment commonly used for access to subsistence harvest areas is presently limited to a half dozen skiffs. During interviews conducted for this study, some residents placed a high priority on obtaining a skiff. Although an extensive sharing network exists in the community, most residents enjoy participating in subsistence activities and therefore depend on the availability of skiffs to bring them to harvest areas. Residents who do not own a skiff either participate with

the owner on an outing or borrow a skiff from a friend or relative. An increase in the number of skiffs in the community appears to be a likely result of the increased availability of local employment. Additional skiffs in the community may increase access to harvest areas and decrease the community's dependence on present skiff owners. If this occurred there would undoubtedly be some changes in the extensive sharing networks currently operating in the community as more households would be able to provide for their own subsistence needs. It is unlikely, however, that an increase in skiffs would extend the current harvest area boundaries, since most species are available in close proximity to the community.

Skiffs have been the primary mode of transportation and access to subsistence harvest areas since the founding of Akutan. In the past several years, however, three-wheeled all terrain vehicles (ATVS) have been acquired by some community residents. At the present time, there are three ATVS in the community, all owned by a single family. These vehicles are not regularly used for subsistence purposes, rather are primarily for enjoyment and traveling about the community. Local residents speculated that these vehicles would not likely become important pieces of subsistence harvest equipment due to the mountainous local terrain and the marine orientation of almost all subsistence harvest activities. Thus, the three wheeler is not likely to be adopted for subsistence harvest purposes, although its presence in the community signifies continual advances in technology available to local residents. The potential for changes in harvest equipment and the availability of local employment with the potential to conflict with the timing of subsistence activities are the most likely forces of internal change in current subsistence regimes operating in Akutan.

Population Fluctuations. Natural fluctuations in subsistence resource populations as well as induced fluctuations in the local availability of these resources have the potential to alter subsistence use patterns. Traditionally, subsistence patterns were often influenced by natural fluctuations in population levels of important subsistence species. For example, the importance of pink salmon, a preferred subsistence resource during the summer months, fluctuates yearly. Concentrations are greater



during even years when significant numbers appear in late July and August. In odd years, however, the pink salmon arrive in substantially reduced numbers. Weather is another environmental factor that can influence resource abundance. For example, **Akutan** residents noted that weather conditions in the springtime reduced the availability of gull eggs. These naturally occurring population fluctuations are generally temporary and therefore do not usually require long-term adjustments of subsistence harvest patterns. As is the case with all subsistence based economies, however, a viable subsistence harvest strategy must be flexible so as to accommodate these fluctuations.

Commercial exploitation of the same renewable resources upon which **Akutan** residents depend **also** has the potential to affect subsistence patterns. Commercial use can reduce the availability of subsistence resources on a local level or impact populations of an entire species group. For example, over exploitation of Alaskan **salmon** stocks in the middle of this century caused drastic declines in salmon stocks throughout the state. **On** a local level, commercial use can dramatically impact local availability of a particular resource with minimal impact to an entire population. **Akutan** residents expressed concern over the increased use of **Akutan** Bay and Harbor by commercial fishermen and the perceived reduction of resource availability in the area. Commercial activities can also impact the physical environment upon which subsistence resources depend. It was suggested by some **Akutan** residents that **oil** dumping in **Akutan** Bay by processing vessels posed a threat to the availability of fish. Concern for resource populations and conflicts between various user groups of the same species is a major force behind the implementation of regulations controlling the use of these resources.

Regulatory Changes. Regulatory protection of natural resources for subsistence, commercial, and environmental reasons is a major variable that determines subsistence harvest patterns by **Akutan** residents. Some residents expressed concern over the regulatory changes impacting their subsistence activities and cited recent regulations imposed in **Unalaska**, where only sport fishing is allowed in streams near the city, as an example of this concern. However, **Akutan** residents concerned over protect ng their

subsistence rights are now using the regulatory process to protect their resource base. The majority of Akutan residents favor designation of a "super-exclusive fishing area" for Akutan Harbor (**Akutan** Coastal Management District 1984). The purpose of this designation would be to ensure the availability of key subsistence resources adjacent to the community. Fieldwork for this study also revealed that an attempt is being made by the community to be included in the Aleutians East Coastal Resource Service Area, with a primary goal the protection of habitat from **Akutan** to **Unimak** Pass.

#### Interrelationship Between Cash and Subsistence

Since the founding of Akutan in the late 1800s, community residents have been dependent on a cash economy. Cod fishing, whaling, and fish processing employed villagers who used the income or credits earned to provide them with household needs and the harvest equipment necessary to supplement their wages with local foods. This dependence on cash for active participation in the subsistence economy remains true today. The harvest equipment and other annual costs related the maintenance and operation of this equipment requires cash. Using the boat as an example of essential subsistence harvest equipment, this section discusses the methods used by Akutan residents to defray their subsistence expenses and reviews how changes in employment opportunities have affected subsistence harvest strategies.

As discussed previously, the primary form of transportation used by **Akutan** residents for subsistence are aluminum and fiberglass skiffs powered by outboard motors. Maritime conditions and the predominance of marine species combine to make forms of transportation other than boats impractical in this region. Historically, **Akutan** residents have used a variety of different types of boats. In 1953 there were 36 privately owned boats in the community: 18 dories, 16 flat-bottom skiffs, and two fishing launches "primarily used for the transportation of cargo from ship to shore" (**Spaulding 1955:36**). All of these boats were wooden and all but the two launches used for cargo were powered by outboard engines. In the summer of 1985, there were only six locally owned skiffs in a population of equivalent size. These skiffs are powered by mid-size (20-50 horsepower)

outboard motors and are all either of aluminum or fiberglass construction. This dramatic decrease in the number and type of boats in the community provides an excellent example of how the cash and subsistence economies interact to form an integrated mode of production.

No historical data exist that delineate exactly when this decline in boats occurred. However, there is some evidence to suggest that the decline in the number of boats corresponded with a more pervasive change in domestic economic strategies. Specifically, the economic changes related to the transition from wood to fuel oil as a source of household heat in the 1960s. Prior to this time local residents gathered driftwood in conjunction with most subsistence activities. Thus, every foraging venture had the dual purpose of finding food as well as wood for fuel. The dories used for cod and halibut fishing were also used for fuel gathering as these boats had the capacity necessary to haul large volumes of wood. With the transition from wood to fuel oil, the usefulness of these larger boats diminished.

Prior to the 1960s, cash resources were expended on a very limited number of staple food items and the capital goods related to subsistence production (e.g., boats, motors, guns, ammunition, and other expenses). However, the introduction of fuel oil required significantly larger expenditures of cash than were previously necessary. Local residents responded to this economic change by increasing their involvement with the cash economy and reallocating cash expenditures within the household. It is likely that the reallocation of limited cash resources, combined with the reduced need for high volume dories, was influential in the reduction of both the number and diversity of boats in Akutan.

As involvement in the cash economy increased, Akutan residents perceived the need for additional economic opportunities (see Patterns of Economic Opportunity). Increased involvement in the wage economy has reduced the time available for subsistence harvest activities. This trend in turn has encouraged the adoption of more time efficient harvest equipment that would allow weekend and evening hunting to be both feasible and productive. This new subsistence equipment, while being more time efficient, is also more

expensive. Akutan residents have been able to meet the higher costs by collectively purchasing and sharing the equipment. Current economic conditions and field interviews suggest that the number of skiffs may increase in the future but field interviews indicate that the collective use of the current number of skiffs is sufficient to meet the subsistence needs of the community.

Thus, changes in the domestic economic strategies of Akutan residents have resulted in changes in subsistence harvest equipment. Increased household expenses and increased participation in the wage economy caused Akutan residents to focus their subsistence expenses on a single, cost efficient, boat type. The aluminum and fiberglass skiffs now in use are fast, durable, and inexpensive to maintain. As a result, time conflicts with wage opportunities are minimized.

### Summary

In summary, the domestic economic structures currently operating in Akutan have undergone significant changes during the past decade. Increased and more diverse economic opportunities have become available to Akutan residents due to a variety of factors including the formation of the Akutan Corporation, incorporation as a second class city (1979), and the increased availability of state funds for capital improvement projects. Employment in the processing sector (historically the main source of local jobs) is no longer the preferred source of local income; instead, Akutan residents now prefer the temporary construction jobs related to capital improvements and the permanent positions provided by the city and corporation. Conflicts between employment and subsistence, social, and family activities have resulted in local residents placing a priority on local employment opportunities over those that require leaving the community. New housing (1983) resulted in the formation of several households out of each previously existing extended household. As more residents became responsible for the fixed costs of maintaining and operating a house, the importance of wage income also increased. Finally, despite the increased emphasis on wage income, Akutan residents continue to place high intrinsic value on subsistence activities and expend considerable effort in the pursuit of subsistence foods. Field estimates suggest that subsistence foods

provide over half the protein needs of the community; as such, these activities form an essential part of the domestic economic strategy of **Akutan** residents.

### Political Systems

**Akutan's** political organizations include the City of **Akutan** and the traditional council. Additionally, the **Akutan Corporation** is considered within this discussion. Though primarily a business corporation, it is also a major landholder, a source of community employment, and is governed by an elected board of directors. Its constituency is most of the population of **Akutan**. Thus, since the village corporation controls valued resources, has an elected board, and is accountable to most of the population, it is considered in the context of political systems. Following a brief historical overview, each of these organizations is described. Finally, a discussion of values pertaining to political issues and political organization is presented.

Until the village incorporated as a second class city in 1979, **Akutan** was governed by the traditional chief system originally instituted by the Russian colonists in the 1700s and, according to **Spaulding** (1955), promoted by the fur trading company when the village was settled. **Spaulding** (1955:117-121) wrote of **Akutan**,

The original political hierarchy as instigated by the fur company included a chief, a second **chief**, and a third **chief** . . . **The Aleuts** have maintained "the chief system" up to the present time in **Akutan** as the **only formal** community controlling agency. Through this office the **people** of the community collectively determine their affairs, which appears to have been the aboriginal method of conducting village affairs . . . The political organization in **Akutan** currently reflects the importance of knowing the traditional aspects of **Aleut** life and of being familiar with American ways . . . The chief is expected to enforce discipline in the village. . . In spite of attempts by Russians and Americans to create a governing hierarchy, the **Aleuts** have maintained the community as the functioning organization of social control.

The chiefs held office for one year. However, a chief would likely be retained longer if found to be a capable **leader** (**Spaulding** 1955). During **Spaulding's** field study, the current chief had held office for six years while the chief preceding him had held office for 30 years (**Spaulding** 1955). **Akutan's** last chief held the office of third chief from age 17 to 28, second chief from age

28 to 48, and first chief from age 48 until his death in 1982 at about age 74. Sometime following passage of the Indian Reorganization Act (IRA) in 1934, Akutan formally established a traditional village council. This council was accepted by the federal government as a village governing body that could provide BIA and Indian Health Service (IHS) programs to the village.

Two sources refer to a period in the 1960s to 1970s when the traditional chief leadership was challenged. According to ADCRA (1983:17), “a group of younger men organized to replace the elders as the community’s governing council, although... elder residents are still esteemed for their guidance. ” Rose (1983:32) reported that **Spaulding** returned to Akutan in 1975 to find that,

The old men, particularly the hierarchy of chiefs, no longer controlled affairs of the village. White men who had married Aleut woman [sic] began to take advantage of their positions of influence and instigate a change in village government from the three chief system to a council composed of younger people.

Neither source identifies the organization or council that grew out of this challenge by younger and/or white men, nor do they discuss the causes or issues that inspired the dissatisfaction with the traditional chiefs. Furthermore, interviews indicate that the chief during that time remained powerful and highly respected throughout his leadership. This shift, however, coincided with a period when the State of Alaska encouraged rural villages to incorporate as cities. While traditional councils were recognized by the federal government as entities eligible to receive federal funds, the state did not recognize these local governments and preferred that villages set up a city government to receive state revenue sharing and other state funding. Moreover, this period also coincided with the passage of ANCSA. Incorporation as a municipality and the establishment of village corporations necessitated a level of administrative expertise not heretofore required within village political structures. Taken together, these changes signal a need for more professional, businesslike, and formal skills within villages if they were to avail themselves of state funding opportunities and if their village corporations were to survive. Consequently, the need for a new type of leader emerged. Leadership shifted from traditional elders to younger, more progressive, better educated individuals who possessed a broader understanding of current statewide and national issues. These trends, affecting rural

villages throughout Alaska, very likely contributed to the leadership changes observed in Akutan in the 1960s and 1970s.

With passage of ANCSA in 1971, Akutan Corporation was founded. Then, in 1979, the village incorporated as a second class city, forming yet another political/governmental structure in the community. Each of these organizations, as well as the longstanding traditional council, is discussed in detail below; interrelationships between these organizations are also addressed where appropriate.

### City of Akutan

As the crab industry grew in the 1970s and Akutan Harbor became a desirable location for floating processors to operate, up to 13 processors were stationed in the harbor at once. Akutan villagers decided to incorporate as a second class city "In response to the rapid encroachment of the fishing industry" (ADCRA 1982:13). Through incorporation, residents hoped to assert a measure of control over the development occurring in close proximity to their community and also benefit from that development by such measures as taxation.

The city government consists of seven city council members elected by community residents. The mayor, the only salaried officer on the board, is selected by the council. Council members are elected to one, two, and three year terms with two or three seats up for election each year. The council holds monthly meetings. Subsidiary to the city council are a five member elected health committee and a five member appointed planning commission. A part-time professional administrator based in Anchorage, a part-time clerk and full-time accountant in Akutan perform the administrative duties of the city council. In addition to those positions, the city employs a full-time policeman and several part-time positions including a transport vehicle operator, janitor, generator operator, recreation center director, and librarian.

The city provides a number of public services to the community, including local electrical service, fuel distribution, water and sewer utilities, construction and maintenance of the boardwalks, health care, the library, recreational facilities, and public safety. These and other projects, ongoing and planned, are described fully in the Akutan section on Community Facilities and Services.

The city obtains revenues through five main sources: a local sales tax (1/2 percent) on the importation and sale of raw fish or seafood products within the city limits; the city's share of the state raw fish tax; municipal assistance funds; municipal revenue sharing funds; and utilities. Additionally, the city receives grants for specific projects such as coastal management planning and capital construction projects.

In the early 1980s, Akutan residents produced the 1982 Comprehensive Plan for the City of Akutan (ADCRA 1982) with assistance of the former full-time city planner/administrator and ADCRA. Following this effort, a planning commission was formed by the city council and planning ordinances were adopted by the council. In 1983, the planning commission developed an update to the plan because, according to the update, "The process [of developing the comprehensive plan] was so successful...that the goals set out in the original document were substantially realized in a very short period of time" (City of Akutan 1983). These documents outline planning goals, options, and actions necessary to complete the goals for city development. Included in the original goals were a new clinic facility, development of a wastewater disposal system, construction of boardwalks, a seaplane ramp, and a small boat harbor. Goals set forth in the update included establishing a public library, increasing bulk fuel storage, installing an incinerator, and increasing the quality of residences. Upon reviewing the update's goals, it appears that many of this later document's goals have also been substantially accomplished.

A similar function that the city has undertaken is coastal management planning for Akutan under the state Coastal Zone Management program. The Alaska Coastal Management Act of 1977 authorized and encouraged formation of local level organizations to develop coastal management programs for their districts. Districts include organized cities, boroughs, and municipalities, as well as areas within unorganized boroughs (CRSAs). In 1981, Akutan was presented with the option of forming a western Aleutians CRSA in cooperation with the communities of Atka, Nikolski, and Unalaska. A local CRSA board composed of representatives from each community would formulate policy regarding use of the area's coastal resources. Akutan chose not to join a western Aleutians CRSA because of concern that Unalaska would dominate any CRSA board decision-making processes, since Unalaska voters outnumber the combined votes of the other



three villages. Instead, **Akutan** investigated the possibility of joining the Aleutians East CRSA. Communities with the Aleutians East CRSA have passed resolutions in support of annexing the area west of **Unimak** Pass to Akutan Pass. However, the final decision as to the composition of the **CRSAs** rests with ADCRA, which has not approved of this boundary change. According to one source, Atka and **Nikolski** have expressed a willingness to form a CRSA with **Unalaska**. Thus, as one individual described the situation, "everything is at a standstill, bogged down in the mire" of these differences. Meanwhile, the City of Akutan has conducted some of its own coastal management planning pertaining to coastal resources within city boundaries.

This issue reiterates a goal that was informally expressed to the former city administrator of **Akutan**. When the two individuals who shared that position began the job, the community was inundated by the surrounding crab industry, then at its peak. One charge the city council gave the administrators was to "not let **Akutan** become like **Unalaska**" where Natives were far outnumbered by whites and lacked any control in community development. The city plan update (City of Akutan 1983:5) articulates goals reflecting residents' preferences regarding development:

- o To continue community traditions.
- o To encourage orderly growth which will be in keeping with the existing character of the community, emphasizing the dependence of the community on the ocean and its resources.
- o [To] encourage the development of industrial facilities which take into account the continuing relationship of the community and the ocean.

City officials who were interviewed stated they believed Akutan had been largely successful in guiding local development in recent years. One Akutan resident involved in city government said, "Yes, we are on top of development now. We are at least informed. Right now, we have just about everything (i.e., public facilities and programs) we need." A 1984 survey (Alaska Coastal Management District 1984) asked Akutan residents if they were satisfied with current local government. The responses generally confirmed the above statements that the city government was effective with 25 respondents expressing satisfaction in contrast to two who were dissatisfied. One source wrote of Akutan in 1983 (ADCRA1983:90),

The last several years have seen tremendous changes in the community, both in its physical makeup and in the community's capacity for a managed approach to future development. The exercise of passing through a large number of development projects in a very short period of time has provided a crash education in planning and municipal management.

While the decline of the crab industry has removed much of the threat to local control that concerned residents in the early 1980s, Akutan residents have gained valuable experience in community planning that will be essential to continued control of development, particularly if circumstances again occur in which the community becomes the base of industrial development.

### Akutan Corporation

With the enactment of ANCSA in 1971, village corporations were set up to receive Native claim settlements for their enrollees, or shareholders (i.e., those residents of the village who qualified for settlements under ANCSA). The Akutan Corporation is the village corporation for Akutan residents. As such, it received \$625,000 over a ten year period and surface rights to 92,160 acres of land; to date, 89,773 acres have been conveyed. The Akutan Corporation's land selections are primarily on Akutan Island and other nearby islands. Subsurface rights to the Akutan Corporation's lands (and all other village corporation lands within the Aleutian/Pribilof Islands region) are owned by the Aleut Corporation, the regional Native corporation under ANCSA.

The Akutan Corporation consists of 107 shareholders, the majority of whom live outside of Akutan in Seattle, Anchorage, and other communities. (This contrasts to an earlier description [ADCRA 1983] based on a 1980 corporation annual report stating the corporation had 80 members, about 27 of whom resided outside of Akutan. The increase in shareholders is a function of deceased individuals leaving portions of their shares to more than one person.) At annual meetings, shareholders elect five board members to one year terms of office.

As a private corporation, one main function of this organization is to invest or develop its assets profitably. Toward this goal, the corporation leases the local store from its owners (who are shareholders living in Washington and descendants of the original merchant for the fur trading company) and operates

the business. In 1984, the corporation constructed an addition to the store. Another of the corporation's business ventures was the construction of the Bayview Plaza building described in Community Facilities and Services above. Costing approximately \$700,000, the corporation obtained a conventional loan with the city's lease of the first floor as collateral (ADCRA 1983). A third source of revenue to the corporation is an old house that it owns; during the field visit, a local family was in the process of purchasing the house from the corporation. In addition to these three in town projects, the corporation leases land to two processing companies, Trident and Deep Sea, and leases grazing rights to an Unalaska resident whose cattle are on Akun Island. A spokesperson for the corporation remarked that it was difficult to get payment on the grazing lease.

To manage these activities, the corporation employs five staff persons: the president, the storekeeper, the bookkeeper/secretary, an assistant bookkeeper/secretary, and a custodian.

In 1982, enrolled shareholders received a \$1,000 dividend. This is the only dividend issued to shareholders in the corporation's history. Asked about other ventures planned by the corporation, a spokesperson said they had no further plans at this time. He added, "We are just trying to get back on our feet," an apparent reference to a prior board officer who had managed funds poorly. This spokesperson also stated that although the Akutan Corporation does not have any explicit policies regarding investments or development of its lands, it very likely would be willing to lease lands to the oil industry should they begin exploration or drilling in the area. Other shareholders concurred with this sentiment.

Under ANCSA provision 14(3)(c), each village corporation is required to transfer up to 1,280 acres of land to the local municipal government for its future growth and development. The Akutan Corporation has transferred to the City of Akutan lands on which city buildings rest, as well as 370 acres of watershed and powerline right of way from a potential hydroelectric site near the village and miscellaneous other acreage (see Land Use and Housing above). The city and the corporation have agreed that instead of selecting its entire entitlement at once, the city can request lands as needed from the corporation.

As noted in prior documents on Akutan (ADCRA 1982, 1983), the city at one time conceived a plan to develop a major whitefish processing plant at the head of Akutan Harbor. The Akutan Corporation was to be part of this venture, primarily as the landholder. This land is the most developable land held by the corporation and was valued at \$2.5 million for 32.5 acres (ADCRA 1983). This land is also almost the only usable land in the vicinity, although it is nearly two miles away from the village. The plans for a whitefish processing complex never materialized; however, the city's opportunity to select lands from the corporation still remains, and this land is one of the few likely sites for selection should the city need room for growth. As one source wrote (ADCRA 1983: 46), "There are obviously some very high stakes involved in the final selection agreements." A town this small has almost more board and council seats than it has individuals motivated to assume the responsibilities of those positions. Consequently, some members of the city council are also on the corporation board of directors and almost all city council members are shareholders in the corporation. While the city and the corporation may have conflicting goals for the lands that one entity owns and the other can legally request title to, there is sufficiently good rapport to assume that such a conflict would be amicably resolved. Further detail on land use issues and development potential are discussed above in Land Use and Housing.

#### Traditional Council

As mentioned earlier, **Akutan** residents formed a traditional council several decades ago. Although the village had maintained the chief system since its founding, the traditional council was the first formal village government that higher government structures (i.e., specifically the federal government) could recognize. To be formally recognized by the federal government, specifically the BIA and the IHS, a traditional village council had to develop a constitution and bylaws. **Akutan's** council has not applied for an IRA charter from the federal government. Until 1971, the traditional council was the only governmental structure in Akutan. Any matters pertaining to the community were dealt with primarily by the chiefs, whose responsibilities were described earlier in this section. The existing literature, however, does not describe the specific powers and responsibilities of the **Akutan** traditional council. In 1971, another entity was added to the political organization of **Akutan** with the

formation of the village corporation, although this group's activities pertained primarily to business matters. According to one resident, even after formation of the city government in 1979 and election of a young mayor, the chief was consulted by the city on most issues and actions of significance to the community.

As has been mentioned previously (see Social Organization), the most recent chief held the office of first chief from about 1956 until his death in 1982. He was a strong leader, highly esteemed, and an advocate of traditional values while also recognizing the need to be progressive. He is quoted as saying (ADCRA 1983:20),

We must recognize that the way of the future is progress and development. These things will happen with or without us. Therefore we must be careful to take part in our own development; to be careful that we maintain those things that are important to us while we develop.

Although more formally empowered entities were undertaking basic local government functions, the chief's position of leadership was highly respected. It appears, however, that much of his influence stemmed from personal qualities and a long history of leadership rather than from the formal powers of the traditional council or the specific role of chief; with his death in 1982, the position of chief was terminated. In its place, the position of president was established and an elder from the community was chosen to be president. Upon the chief's death, however, the organization lapsed into a temporary state of inactivity.

During the field study, a spokesperson for the traditional council was attempting to reactivate the traditional council. She had scheduled an election in August for the community to choose an entirely new slate of five traditional council members. In the past, council seats were occupied for indefinite terms; if a council member died or resigned, another individual would be appointed to serve on the council. This resident hoped to establish a policy of annual elections for the traditional council.

Furthermore, in discussing the need to reactivate the council, this spokesperson explained,

The traditional council ran everything before the city was formed. If people came to town, they dealt with the chief. The council ran the power system and things like that for the town. When the city was formed, they still went to the chief when anything came up. Now the council does nothing, but legally it is more powerful than the city and the corporation. The president is a respected elder, but he can't read or write. I would like to see him remain on the council, but with someone who can read and write and be more effective as president. The biggest issue the traditional council needs to deal with is the land and 1991. These issues are hard to understand, and we only have five or six years until 1991, so we need to get involved. Hopefully that will be enough time to figure it all out.

The then-upcoming United Tribes of Alaska (UTA) meetings were also an incentive to reorganize the traditional council; this individual applied for a BIA grant to send two members to the meetings in Anchorage, and UTA offered to pay for other members' attendance. The spokesperson expected this event would supply the necessary impetus for the council to formulate goals and begin working toward them. However, she did not indicate the specific goals and activities she envisioned the traditional council undertaking.

As of July 29, 1985, twelve residents had signed up to run for traditional council seats on August 20; the organizer expressed surprise that so many people had shown interest in being involved in this organization. Nevertheless, residents were unclear as to the traditional council's potential role in the community, given that the city had, in six years, assumed nearly all functions previously performed by the traditional council and had taken on additional functions as well. The extent to which this organization can reestablish a niche in Akutan, and the precise nature of that niche, remain unknown at this time.

#### Political Values

As the preceding discussion has indicated, Akutan has undergone considerable change in its political structure over the past three decades. Some of the external forces of change (i.e., pressure to incorporate, ANCSA, and growth of the local crab industry) appear to have induced shifts in political values among Akutan residents.

Primary among these shifts in values was the gradual change from traditional leadership by elders to more progressive, worldly leadership by younger members of the community. As new layers of governmental structure emerged in Akutan (e.g., city and village corporation), residents realized the need for more expertise in dealing with the requirements of these organizations. Thus, residents sought such qualities in their leaders as knowledge of issues affecting rural villages throughout the state, experience extending beyond Akutan, and more formal education. When the town incorporated in 1979, a man in his 20s was elected mayor of Akutan. He still occupies that position currently and has been largely unchallenged for the seat the past six years. In explaining his uncontested longevity in office, one individual said, "He is very bright, very capable, and has lived outside of the village successfully. He is considered able to deal with 'Amerkanch'. And he does participate in traditional things, like sharing the subsistence harvest." While this young man led the affairs of the newly incorporated city, the traditional council's role in the community became obsolete. When the long-time chief of the traditional council died and was replaced by a president, that organization became inactive in part because, according to some residents, the leadership was not equipped to deal with the modern issues a local government structure must face.

This recently emerging change in values did not take place to the complete exclusion of traditional political values, however. Rather, a blend of traditional and modern values has evolved from the above transitions. For example, one individual noted that while the mayor may signify a departure from traditional leaders in some respects, his continuous and unchallenged leadership is consistent with traditional culture in that chiefs held office for life.

As to the community's position on issues, the desire for balance between traditional and progressive approaches is again evident. Akutan residents, faced with overwhelming fisheries activity in their community during the crab boom, realized the need to assert a degree of local control over the extent and type of development occurring in and around the town. Consequently, they incorporated as a second class city, established a planning commission, and developed a comprehensive plan. Each of these steps was taken precisely for

the purpose of defining community goals and formalizing (therefore strengthening) Akutan's power to guide local development. For example, the city council urged the city manager to help Akutan avoid becoming like Unalaska. Moreover, the goals expressed in the comprehensive plan update (City of Akutan 1983:5) articulate a desire to continue community traditions, encourage growth that is orderly and compatible with the existing lifestyle and that respects the "continuing relationship of the community and the ocean."

Although neither the corporation nor the traditional council had explicit policies guiding their activities, the individuals leading these organizations and comprising the constituency are the same people expressing the above goals through the city government. While residents recognize the need for a reliable economy and desire the development of local industry, they do not wish to attain that goal at the expense of the traditional lifestyle and values; this value underlies much of the political activity among Akutan residents.

### Summary

Having been exposed to intense development in their area without being fully prepared for the consequences to village life, Akutan residents currently value local control over development. They also realize that to assert this control, their leaders must be effective in dealing with industry and higher government agencies; consequently, they have concentrated more power in younger, more educated leaders than in the past, when leadership was vested in more traditional elders. Finally, the value of maintaining residents' traditional relationship to the sea lies at the heart of these values pertaining to leadership and local control.





## V. ST. PAUL

### DEMOGRAPHY

Population estimates provided by the City of St. Paul and certified by the Alaska Department of Community and Regional Affairs (ADCRA) indicate a static population of 595 persons in the community from 1982 through 1985. Estimates provided by the Alaska Department of Labor (ADOL) are substantially different from the city's estimates for 1983 and 1984. ADOL estimates are 528 persons in 1983 and 541 persons in 1984. ADOL'S 1985 data were not available as of this writing. Reconciliation of the differences between the estimates provided by the City of St. Paul and ADOL was not successful so a population range is presented for 1983 and 1984 (Table 5-1).

### Population Growth

The population of St. Paul increased 30 percent in the decade between 1960 and 1970 with growth slowing to 21.1 percent from 1970 to 1980 (Table 5-1). City of St. Paul population figures show an increase from 551 in 1980 to 595 persons in 1985.

Population increases between 1960 and 1985 may be attributed to in-migration of St. George islanders and other nonresidents, and positive net natural change (births minus deaths). In the 1960s, the National Marine Fisheries Service (NMFS) asked St. George residents to move to St. Paul in an effort to consolidate fur seal operations on St. Paul. Consequently, 13 families (68 individuals) moved from St. George to St. Paul between 1964 and 1970 (Jones 1980).

The net natural population change between 1980 and 1984 was 163 births and 67 deaths, or 96 people (Table 5-2). Between 1970 and 1982 migration accounted for an additional 72 persons (Table 5-3). Net migration since 1983 is unknown.

TABLE 5-1: ST. PAUL OVERALL POPULATION

<u>Year</u>	<u>Total Population</u>	<u>% Change</u>
1960	350	
		30.0
1970	455	
		21.1
<b>1980</b>	<b>551</b>	
		7.3
1981	591 <sup>a</sup>	
		0.7
1982	595 <sup>a</sup>	
		unk
1983	595 <sup>a</sup> (528) <sup>b</sup>	
		unk
1984	595 <sup>a</sup> (541) <sup>b</sup>	
		unk
<b>1985</b>	<b>595<sup>a</sup></b>	

unk: Unknown.

a. City of St. Paul population estimates.

b. Alaska Department of Labor population estimates.

Sources: Alaska Department of Labor (n.d.c), Population Overview. Alaska Department of Labor, personal communication (1985). Arctic Environmental Information and Data Center, University of Alaska (1978 e), St. Paul. City of St. Paul (1983, n.d.), Household Census, City of St. Paul, personal communication (1985). U.S. Department of Commerce, Bureau of Census (1982a), 1980 Census of Population: General Population Characteristics.

TABLE 5-2: ST. PAUL BIRTHS & DEATHS

<u>Year</u>	<u>Births</u>	<u>Deaths</u>	Net Natural <u>Change</u>
1970	<b>10</b>	1	<b>+9</b>
1971	8	2	+6
1972	6	4	+2
1973	<b>12</b>	3	+9
1974	10	8	<b>+2</b>
1975	9	2	+7
1976	18	2	+16
1977	9	4	+5
1978	10	2	<b>+8</b>
1979	<b>1</b>	6	-5
1980	14	5	+9
1981	8	8	0
1982	15	7	+8
1983	13	5	+8
1984	<b><u>20</u></b>	<b><u>8</u></b>	<b><u>+12</u></b>
Total	163	67	+96

Sources: Alaska Department of Health and Social Services (n.d.), Vital Statistics. Alaska Department of Health and Social Services, personal communication (1985).

TABLE 5-3: ST. PAUL NET MIGRATION

<u>Year</u>	<u>Total Population</u>	<u>Net Natural Population Change</u>	<u>Net Migration</u>
1970	455		
		+59	+37
1980	551		
		+ 9	+31
1981	591 <sup>a</sup>		
		0	+4
1982	595 <sup>a</sup>		
		+ 8	-8 (unk)
1983	595 <sup>a</sup> (528) <sup>b</sup>		
		+ 8	-12 (+5)
1984	595 <sup>a</sup> (541) <sup>b</sup>		
		+12	-8 (unk)
1985	595 <sup>a</sup>		
Net Change:	121 (unk)	+96	44 (unk)

( ): Parentheses indicate Alaska Department of Labor data.  
unk: Unknown.

- a. City of St. Paul population estimates.
- b. Alaska Department of Labor population estimates.

Sources: Alaska Department of Health and Human Services (n.d. ), Vital Statistics. Alaska Department of Health and Human Services, personal communication (1985). Alaska Department of Labor (n.d.c), population Overviews. City of St. Paul (1983, n.d.), Household Census.

Based upon information provided by City of St. Paul census respondents in July 1985, total in-migration for St. Paul during the prior 12-month period was 15 people. Of these individuals, five were from the Anchorage area, three were from Idaho, and two were from Atka. Individual new residents also came from Fairbanks, Manley Hot Springs, and Juneau. Short-term in-migration of relatives (not considered in the in-migration estimates provided above) was observed during the peak construction season. The continued housing shortage may discourage former residents from returning and entering the work force on a permanent basis.

### Population Characteristics

St. Paul's population has been predominantly male and Aleut (Table 5-4, 5-5, and Figure 5-I). In 1970, 1980, and 1985, males constituted 53 percent, 56 percent and 55 percent of the resident population, respectively. The percentage of Aleuts in the resident population declined from 94 percent to 82 percent between 1970 and 1980 (Table 5-5) as members of other racial groups entered the community in response to employment opportunities. Based upon 1985 analysis of raw City of St. Paul census data, Aleuts make up approximately 90 percent of the population. This percentage is not directly comparable to the 1970 and 1980 U.S. census data because the U.S. census is conducted in April and St. Paul's population estimates are prepared in the summer. Consequently, nonresident and generally non-Aleut school district personnel are not counted in the city's population estimates.

Population composition by age cohort has changed from 1980 to 1985 with those cohorts comprising the 20 to 34 age group having the largest net migration (City of St. Paul n.d.; field data 1985). The exact number of persons in each age cohort who have migrated to St. Paul cannot be calculated since the 1985 City of St. Paul census provides information only for permanent local residents and the 1980 census includes all persons on the island.

### Education and Occupational Skills

Table 5-6 shows the educational levels of residents of St. Paul. Figures for 1980 and 1982 are not directly comparable due to slightly different age categories and time of year for the survey.

TABLE 5-4: ST. PAUL POPULATION COMPOSITION

<u>Age</u>	<u>1970</u>			<u>1980</u>			<u>1985<sup>(1)</sup></u>		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0-4	31	25	56	33	22	55	31	29	60
5-9	31	37	68	26	21	47	35	25	60
10-14	22	24	46	37	27	64	23	23	46
15-19	25	22	47	30	29	59	33	26	59
20-24	11	15	26	18	21	39	34	25	59
25-29	16	10	26	20	18	38	23	23	46
30-34	12	15	27	26	13	39	23	17	40
35-39	16	8	24	14	10	24	24	20	44
40-44	14	6	20	13	13	26	16	9	25
45-49	12	9	21	11	8	19	9	14	23
50-54	11	12	23	10	3	13	11	8	19
55-59	12	10	22	15	9	24	15	3	18
60-64	7	5	12	9	8	17	7	8	15
65+	<u>6</u>	<u>4</u>	<u>10</u>	<u>10</u>	<u>9</u>	<u>19</u>	<u>10</u>	<u>14</u>	<u>24</u>
Total	226	202	428	272	211	483	294	244	538

1. Permanent resident population.

Sources: City of St. Paul (n.d.), Household Census. Gorsuch & Hull (1983 b), St. Paul and St. George Overall Economic Development Plan, Appendices.

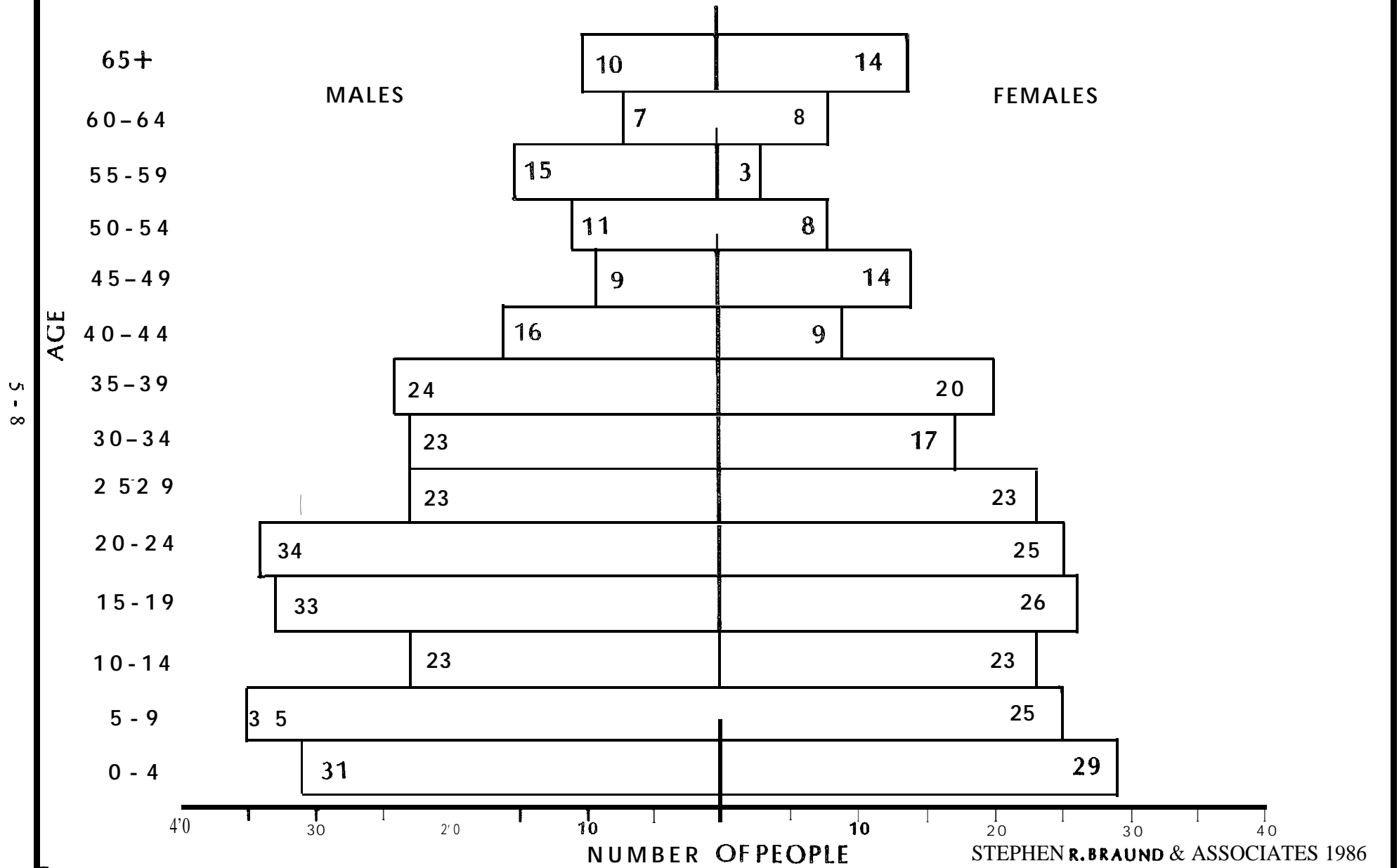
TABLE 5-5: ST. PAUL COMPOSITION OF POPULATION BY RACE

<u>Race</u>	<u>% of 1970 Population</u>	<u>% of 1980 Population</u>
<b>Aleut</b>	94.0740	81.7%
Indian	1.1	4.2
Eskimo	0.0	1.8
White	4.9	11.0
Other	0.0	1.3
Total	100.0	100.0

Source: U.S. Department of Commerce, Bureau of Census (1982a), 1980 Census of Population: General Population Characteristics.



FIGURE 5-1 : ST. PAUL ISLAND POPULATION COMPOSITION, 1985



\*

TABLE 5-6: ST. PAUL EDUCATIONAL ATTAINMENT

<u>Highest Level Completed</u>	Number of People <sup>1</sup>	
	<u>1980</u> <sup>(2)</sup>	<u>1982</u> <sup>(3)</sup>
Elementary	116	NA
High School (1-3 years)	33	NA
High School (4 years or GED)	79	95
College (1-3 years)	29	27
College (4 years)	13 <sup>(4)</sup>	3 <sup>(5)</sup>

1. Age 25 and older in 1980, age 26 and older 1982.
2. 1980 U.S. Census data.
3. 1982 data from Smythe (1983).
4. Includes school teachers and other persons who were present on St. Paul on April 1, 1980, but who were non-permanent residents.
5. City officials indicate that only one **Aleut** has completed four years of college. This number probably reflects addition of other non-permanent residents at that time.

Sources: U.S. Department of Commerce, Bureau of Census (n.d.d), 1980 Census of Population and Housing, Summary Tape File 3A. Smythe (1983), **Pribilof Islands Skills Rehabilitation Plan.**

Occupational skills of permanent, local St. Paul residents relevant to OCS activities are presented by category in Tables 5-7 through 5-11. The tables give information on the number of people who felt they possessed certain skills, and the number of people with formal training in each skill area. In general, these skills were obtained through NMFS employment and limited formal training. Residents **could** respond as having more than one skill. Since the occupational survey was completed in 1982, additional education and training has been provided through the University of Alaska Rural Education Pribilof Center in the **fields** of office skills, small business management, carpentry, mechanics, heavy equipment operation, marine engine repair, and computer operation. Approximately 40 people have taken the heavy equipment operation, mechanics, and carpentry classes.

A significant amount of construction activity occurred in St. Paul in 1985. Local labor's large participation in construction related employment suggests their **skill levels** in heavy equipment operation, carpentry, mechanics and general office practices have probably increased. These skills appear appropriate not only for the harbor/housing construction industry, but also for OCS support services.

Current skills and aptitudes have resulted in the community's reevaluation of their economic development strategy (Kirkwood 1985 f). Continued participation in the commercial fisheries industry is seen as a long term employment base. However, St. Paul has initiated programs to engage in marine support services, OCS staging facilities, and provisioning as shorter term goals (discussed in Summary of Trends and Anticipated Developments in the Local Economy).

#### LOCAL ECONOMY

Since the discovery of St. Paul by Russian merchants in 1787 (one year following the discovery of St. George Island), the island's economy has historically centered around fur sealing operations. Both islands were initially visited by the Russian merchants and their Russian and Aleut laborers on a seasonal basis to harvest the fur seals. By the 1820s, the Russians had moved an Aleut labor force and their families to the islands to reside there on a permanent basis. Jones (1980:8) observed,

TABLE 5-7: ST. PAUL AVAILABLE SKILLS IN ADMINISTRATION & OFFICE WORK

<u>Skill</u>	<u>Number of People with Skill<sup>1</sup></u>	<u>Number of People with Formal Training</u>	<u>Number of People with Supervisory Experience</u>
Administrative Assistant	3	1	2
Administrative Assistant	11	1	7
Bookkeeper/Payroll	<b>16</b>	5	10
Clerk Inventory	8	2	5
Clerk Office	22	2	9
Clerk Mail	11	2	6
Grants Writer	7	4	2
Administrative Manager	9	5	9
Land Planner	2	2	0
Paralegal	2	<b>1</b>	1
Secretary/Receptionist	23	8	6
Typist	15	8	4
Expediter	<b>1</b>	0	1

1. Figures based on questionnaires that asked individuals to say what skills they felt they possessed.

Source: Smythe (1983), Pribilof Islands Skills Rehabilitation Plan.

TABLE 5-8: ST. PAUL AVAILABLE SKILLS IN RESTAURANT & HOTEL TRADES

<u>Skill</u>	<u>Number of People with Skill</u> <sup>1</sup>	<u>Number of People with Formal Training</u>	<u>Number of People with Supervisory Experience</u>
Bartender	2	0	0
Cook	16	5	9
Assistant Cook	16	1	3
Cook Helper	1	0	0
Laundry	7	0	3
Maid	22	0	3
Manager Hotel	3	0	3
Manager Restaurant	6	1	6
Waiter	1	0	0
Waitress	35	0	9
Baker	13	2	4

1. Figures based on questionnaires that asked individuals to say what skills they felt they possessed.

Source: Smythe (1983), Pribilof Islands Skills Rehabilitation Plan.

TABLE 5-9: ST. PAUL AVAILABLE SKILLS  
IN CONSTRUCTION, BUILDING, AND MAINTENANCE

<u>Skill</u>	<u>Number of People with Skill<sup>1</sup></u>	<u>Number of People with Formal Training</u>	<u>Number of People with Supervisory Experience</u>
Building/Maintenance	19	3	10
Carpenter	8	2	4
Carpenter Helper	53	4	6
Electrician	1	0	1
Electrician Helper	27	5	8
Laborer	109	1	19
Diesel Mechanic	14	10	5
Gas Engine Mechanic	18	11	7
Mechanic General	7	2	4
Heavy Equipment Mechanic	8	7	4
Mechanic Leader	5	2	2
Mechanic Helper	27	7	7
General Mechanic Helper	8	4	0
Heavy Equipment Operator	29	4	7
Fuel Truck Operator	8	3	3
Vehicle Operator	44	4	9
Painter	21	0	10
Painter Helper	42	0	4
Plumber	5	3	5
Plumber Leader	1	1	1
Sheet Metal Worker	12	2	0
Surveyor	2	0	0
Surveyor Assistant	6	1	0
Welder	1	0	0
Service Oiler	1	1	0
Manager Fuel Operations	3	0	2
Truck Driver	14	0	4

1. Figures based on questionnaires that asked individuals to say what skills they felt they possessed.

Source: Smythe (1983), Pribilof Islands Skills Rehabilitation Plan.

TABLE 5-10: ST. PAUL OTHER AVAILABLE SKILLS

<u>Skill</u>	<u>Number of People with Skill</u>	<u>Number of People with Formal Training</u>	<u>Number of People with Supervisory Experience</u>
Civil Engineer	1	1	0
Power Plant Operator	21	4	10
Vehicle Operator	44	4	9
Aviation Mechanic	1	1	1
Meteorological Technician	2	1	0
Gas Station Attendant	1	0	0
Auto Body Repair	1	0	1
Manager Operations	4	2	4
Reindeer Herding	21	0	4
Upholstery Repair	1	0	1
Basket Weaving	6	4	0
Ceramics	10	4	0
Jewelery	3	1	0
Scrimshaw	1	0	0
Skin Sewing	15	7	0
Small Baidars	2	2	0
Art School	1	0	1
Biological Technician	10	0	4
Clergy	2	2	2

1. Figures based on questionnaires that asked individuals to say what skills they felt they possessed.

Source: Smythe (1983), Pribilof Islands Skills Rehabilitation Plan.

TABLE 5-11: ST. PAUL SKILLS AVAILABLE IN MACHINE OPERATION & REPAIR

<u>Machine of Skill</u>	<u>Skilled in Operation</u> <sup>1</sup>	<u>Skilled in Repair</u> <sup>1</sup>
Diesel Generator	20	15
Furnace Heating System	15	12
Front End Loader Backhoe	20	12
Front End Loader	19	12
Forklift	74	14
Fish Processing Machine	7	<b>1</b>
Dictation Machine	15	0
Crane 20+ ton	4	6
Crane 10-20 ton	10	8
Crane Truck Type	8	8
Concrete Vibrator	<b>24</b>	0
Concrete Trowler	17	0
Concrete Mixer	14	8
Concrete Saw	18	1
Computer Terminal	1	1
Computer	15	0
Compactor	32	9
Bulldozer	23	12
Blubber Machine	12	1
<b>Baidar</b>	17	8
Backhoe	21	12
Asphalt Dist.	2	0
Word Processor	4	0
Welder	36	7
Typewriter	85	5
Snow Removal Truck	22	9
Dump Truck	62	16
Tractor	26	<b>11</b>
Sand Blaster	30	3
Refrigeration Unit	5	5
Power Shovel	<b>13</b>	9
Power Saw	59	9
Power Mailer	38	5
Portable Pump	37	12
Pneumatic Drill	38	8
Paint Sprayer	33	9
Outboard Motor	58	20
Landing Craft	8	9
Grader	<b>18</b>	10
Gas Generator	<b>18</b>	14

1. Figures based on questionnaires that asked individuals to say what skills they felt they possessed.

Source: Smythe (1983), Pribilof Islands Skills Rehabilitation Plan.



Permanent villages meant a juncture for the **Aleuts**, turning those on the **Pribilofs** to a different path from the rest. With the coming of the Russians, **all Aleuts** were forced into specialized activities in the fur trade. Most became pelagic (open sea) hunters roaming along the coasts of northwest North America for part of the year and subsistence hunters in their villages for the rest of the year. Thus, they were able to maintain their aboriginal skills as boatmen, hunters, and fishermen. Those consigned to the **Pribilofs** suffered a different fate. Although they did some hunting and fishing, they basically became gatherers and processors on an industrial assembly line with a specialized division of labor that involved driving, slaughtering, and skinning seals on land, activities far removed from their traditional marine hunting. Furthermore, sealing occurred during the summer months, the prime time for many subsistence activities.

Following the United States' purchase of Alaska in 1867, the Alaska Commercial Company was awarded a 20 year lease to the business portion of the fur seal harvest while the government retained authority over the **seals** and the **Aleuts**. Their management of the **island** population followed essentially the same pattern as was established under Russian ownership. The **role of local residents** in this economy was to conduct the summer harvest of fur **seals** and process the pelts to be shipped elsewhere for final tanning and processing. In addition to working on the seal harvest for the Alaska Commercial Company, the government required work of the residents during the winter. The second 20 year lease was awarded to the Northern Commercial Company in 1890.

Unlike most government programs, the **Pribilof** endeavor was guided by a federal policy that the program at **least** break even, if not show a profit. During the second lease period, the government **lost** money **while** the company made a profit. As Jones observed (1980:38),

from its origin, the **Pribilof** program, as a government enterprise, was **held** to private market-place standards of profitability that became **deeply** entrenched into the fabric of the management system. In effect, this gave rise to norms and attitudes that distinguish the **Pribilof** program from most other government activities, especially social welfare.

The seal population continued a decline that began in the 1880s. As the **Aleuts** were paid on a piecework basis, the diminished seal populations resulted in poverty among the **Aleuts** in the **early** 1890s. Relief appropriations from the federal government were begun and continued throughout the second lease period. Eventually, even wages were administered as welfare in the form of

supplies. Jones (1980) notes that at this point, **Pribilof Aleuts** became wards of the government.

The seal populations were so low at the end of the second lease period that Congress passed the 1910 Fur Seal Act terminating the private lease system and placing the entire program under federal control. In 1911, the North Pacific Fur Seal Convention, a treaty between the U.S., Great Britain, Japan, and Russia, ended pelagic sealing. The treaty provided Japan and Canada with 15 percent of the Russian and U.S. fur seal harvests on the grounds that they cease sealing on the high seas, a practice which results in a high rate of loss per retrieved seal and in the slaughter of high numbers of female seals (Jones 1980). Even with the treaty established, the **Pribilof** seal harvest was restricted to subsistence only (i. e., meat for the **Aleut** residents' consumption) for five years pending recovery of the seal population to healthy levels.

The populations eventually recovered, yielding a profit for the federal government. However, **Aleut** conditions remained relatively impoverished and restricted under the control of the Bureau of Fisheries (Jones 1980). Residents were considered wards of the government and they were issued certain basic provisions, such as housing and fuel. Utilities were subsidized by the government. Residents' travel off the island was strictly controlled by the government. In essence, **Pribilof** residents were a captive work force, supported by the government to fulfill the requirements of the Fur Seal treaty. The community's existence depended almost exclusively upon the summer harvest, and residents were in a position of wholly depending upon and being controlled by the government for their most basic needs.

When **Pribilof Aleuts** were evacuated to southeast Alaska during World War II, they came into contact with other life-styles and with Native advocacy organizations. This exposure inspired **Pribilovians** to organize for a degree of self-government and increased control over their living and working conditions. Upon their return to the islands, residents began asking for reforms. Legal and non-legal support, leadership and organization, and publicity contributed to the **Aleuts'** effectiveness in modifying the terms of the relationship between the government and the **Pribilof Islands** residents. A

new wage plan was initiated in 1950 that improved the economic situation for **Aleuts**. A number of reforms in education, travel, enterprise, and other areas of island life followed.

Establishment of a **local** chapter of the Alaska Native Brotherhood, an Indian Reorganization Act (IRA) council, and municipal incorporation all grew **out** of this movement. The latter two organizations, as **well** as the village corporation formed under the Alaska Native **Claims** Settlement Act (ANCSA), created a few jobs and were the beginning of an independent, local institutional framework that would provide a degree of community stability and continuity regardless of the federal government's involvement on the island.

In recent years, operation of the fur seal harvest became a financial drain for the government; prices obtained for the pelts were not sufficient to cover production expenses. Hence, the federal government subsidized the harvest so that local employment **and** the tenets of the Fur Seal Act **could** be maintained. Finally, the U.S. government amended the **Fur Seal Act in** 1983 to terminate the commercial fur seal harvest (although provisions in the amendments permitted the **local** village corporations to continue **the** harvests **on** both islands). The long-term relationship between **the** federal government and the people of St. Paul came to an abrupt end in **1983**. That year, **NMFS** (the agency responsible for the **Pribilof** fur seal harvest operations) terminated the majority of its activities on the island. The end of federal support for the fur seal harvest caused a sudden change in the economy of the community. Although other employment existed in the **village** (e.g., with the city, the IRA, the village corporation, and a handful of private businesses), the majority of the local income had been derived from employment with NMFS on the fur seal harvest. Fur seal workers were not trained for other economic activities, which meant that retraining and reorientation were immediately necessary.

The people of St. Paul were **called** upon to adapt to economic changes that would normally occur over a lengthy period rather than in a couple of years. In addition to the uncertain future of the community's economy, residents had to deal with the **social** pressures their situation had forced upon them, such as whether to continue living in St. Paul, and changes in lifestyle under the new, developing economy.

The response of community leaders to this economic crisis was to immediately instigate a program which would create employment and income for the people. A fisheries program was developed which has trained local fishermen and processing workers in a commercial halibut fishery. An ambitious construction program has created jobs for many of the workers. As will be described in the following sections, a number of large construction projects employed virtually all available workers in 1985. In the summer construction season, jobs were available that went unfilled. In order to encourage workers to harvest fur seals for community subsistence use in 1985, the Tanadgusix Corporation (TDX - the local ANCSA village corporation) had to pay the hunters an hourly wage to compensate them for the time spent. Aside from losing wages they could have earned in construction while harvesting seals instead, the residents have always been paid to hunt seals. Consequently, they believed they should be paid for the subsistence-only harvest. Seeing the situation as a choice between paying seal harvesters or forgoing the harvest, TDX opted for the former choice (field interviews 1985).

This brief historical background of St. Paul touches upon several current events that will be more fully discussed in later section of this chapter. The discussion and figures in the following section show that the short-term economic program of St. Paul has been a success. Changing from wards of the federal government a few years ago to the current situation of bustling activity and full employment is an impressive achievement. However, it is necessary to review the data presented in the following section to evaluate whether the current economy is sustainable on a long-term basis. Most of the construction jobs have been created by capital construction projects. Continuing the current level of new construction may not be possible in future years. Other enterprise operations, such as commercial fishing, have not reached the stage of being viable entities that can return positive revenue flows to the community.

Future economic activities in St. Paul are heavily dependent upon the completion and operation of the port and harbor. OCS related activities will be but one of the anticipated components of the future employment and income bases for St. Paul.

In addition to the following economic analysis, the sections entitled Social Organization, Domestic Economic Structures, and Political Systems contain additional discussion of residents' adaptations to St. Paul economic conditions.

### Employment

In response to the expected decline in employment and income to community residents during the time period between NMFS withdrawal and the establishment of a new economic base, the City of St. Paul, IRA Council, and TDX established a "transition labor force" whereby each organization hired more St. Paul residents than are necessary under normal circumstances to perform that organization's responsibilities. Total employment in this labor force is approximately 50 residents. This cooperative effort was funded by the City of St. Paul Trust, established under the Fur Seal Act Amendments of 1983, and various grants. The objective was to provide each household with at least one full-time equivalent (FTE) job at a minimum of \$9.00 per hour to meet basic living requirements. As the economy diversifies and other seasonal and/or permanent jobs become available (i.e., independently of the transition labor force), the founding organizations will reduce their employment. The result of this hiring program is employment and income statistics that reflect a transitional (and currently artificially elevated) situation, making comparisons with past and projected events difficult.

Total resident employment increased from 242 jobs in 1980 to 287 in 1982, and approximately 346 in 1985 (Table 5-12). This figure represents about 240 full-time equivalent jobs for local residents. The total number of jobs does not imply that the same number of people had jobs. Most seal harvest positions, for example, were filled by persons who had other employment and took leave to participate in this traditional subsistence activity. Subtracting the seal harvest positions (50) from total number of jobs (346) results in an employment figure of 296 people. This number probably approaches full employment for St. Paul residents.

Approximately 417 persons (excluding uniformed Coast Guard personnel) over the age of 16 reside on St. Paul. These persons are potential members of the civilian labor force. Based upon full employment of 296 residents, the

TABLE 5-12: ST. PAUL RESIDENT EMPLOYMENT

<u>Employer</u>	1980		1982		1985		<u>F.T.E.</u>
	<u>Total Employment</u>	<u>Percent of Employment</u>	<u>Total Employment</u>	<u>Percent of Employment</u>	<u>Total Employment</u>	<u>Percent of Employment</u>	
National Marine Fisheries Service	135	55.8	173	60.3	3	0.9	1.0
U.S. Post Office	2	0.8	4	1.2	2	0.6	2.0
National Oceanic & Atmosphere Admin.	2	0.8	3	1.0	3	0.9	1.0
Federal District Court	NA	NA	NA	NA	1	0.3	0.5
Fish & Wildlife Service	NA	NA	NA	NA	3	0.9	1.0
Federal Aviation Administration	NA	NA	NA	NA	3	0.9	3.0
Coast Guard	2	0.8	2	0.6	2	0.6	2.0
City of St. Paul	10	4.2	11	3.8	72	20.8	72.0
Community Council	NA	NA	1	0.3	8	2.3	8.0
Gas Station	1	0.4	1	0.3	1	0.3	1.0
Store & Tavern	13	5.4	15	5.2	15	4.3	15.0
Seal Harvest	NA	NA	NA	NA	30	8.7	4.0
Tanadgusix Corporation	6	2.5	5	1.7	20	5.8	20.0
Hotel	4	1.7	7	2.4	7	2.0	2.5
Seal Processing & By-products	20	8.3	7	2.4	20	5.8	4.0
Reindeer Antler Processing	15	6.3	NA	NA	NA	NA	NA
Restaurant	NA	NA	NA	NA	9	2.6	3.5
Auto Shop	NA	NA	NA	NA	3	0.9	2.0
Catering	0	0	0	0	7	2.0	7.0
Aleutian/Pribilof Islands Association	NA	NA	2	0.6	1	0.3	1.0
Clinic	4	1.7	3	1.0	6	1.7	6.0
Public Safety	NA	NA	4	1.2	4	1.2	3.5
Pribilof Islands School District	13	5.4	18	6.3	32	9.2	31.0
Tourism	NA	NA	2	0.6	2	0.6	1.0
Airlines	NA	NA	2	0.6	5	1.4	4.5
Restaurants	15	6.3	16	5.6	7	2.0	3.0
OCS	NA	NA	NA	NA	25	7.2	19.0
Construction	NA	NA	NA	NA	50	14.5	19.0
Other	NA	NA	21	7.1	5	1.4	2.0
Total	242	100	287	100	346	100	240.5

Sources: **Gorsuch & Hull** (1983a), The St. Paul and St. George Overall Economic Development Plan. **Smythe** (1983), Pribilof Islands Skills Rehabilitation Plan. Field interviews (1985).

community labor force participation rate is 71 percent. This rate is lower than the 73 percent labor force participation rate estimated for all of Alaska in 1983, but significantly higher than the 36 percent rate for southwest Alaska in that same year (ADOL n.d.b). It seems likely that 71 percent is a maximum rate for St. Paul since some jobs are currently not **filled** under present full employment conditions. (For example, **Unalaska** residents were brought to St. Paul to work in seal processing and fish processing. **In** addition, interviews conducted during the **field** visit with construction company supervisors identified the difficulty that these companies had in finding residents to take these high paying jobs.) Remaining members of the relevant age group are persons who are voluntarily not part of the labor force such as students, retirees, and homemakers, or occupations such as fishermen who are not included in the definition of resident employment for calculating the labor force participation rate.

#### Employment in Fish Harvesting

**TDX** started commercial fishing on St. Paul in 1981 as a demonstration project to evaluate the potential for local **people** to adopt "commercial fishing technology and techniques. **In** that year, **TDX** hired a fisheries consultant to train local people in fishing techniques and design **the** needed equipment and gear for a local **longline** fishery. **TDX** also purchased two 24 foot boats, fully outfitted for training with "state of the art" equipment. The boats were constructed of fiberglass and outfitted with Loran and depth sounders. The boats fished in 1982 and landed **18,000** pounds of halibut. **TDX** began processing fish that year as **well**. In 1983, the Cooperative Extension Service of the University of Alaska offered a six credit small boat training course in St. Paul. **Twelve** St. Paul residents enrolled and graduated from the program that year, the **only** year the course was offered. The halibut catch in 1983 was 4,000 pounds. The 1983 catch was so much lower than the 1982 catch because considerable fishing time was spent in the training course in 1983. In the 1984 fishing season, a number of new local boats and fishermen entered the fishery. The **IRA** Council used some of the "corned beef money" to guarantee loans to fishermen from St. Paul to purchase boats. ("Corned beef" money is the \$8.5 million awarded to St. Paul and St. George in the 1979 U.S. Court of

Claims settlement for unfair and unjust treatment by the federal government between 1870 and 1946. It is called "corned beef" because Aleuts were rationed corned beef and other canned goods while the government agents ate fresh meats. Thus, corned beef is symbolic of the injustices for which restitution was sought through this settlement.) Fishermen acquired seven new boats at this time: two 32 foot aluminum boats; two 26 foot aluminum boats; and three 24 foot fiberglass covered plywood boats. All of the new vessels were equipped with Loran and depth sounders, and the 26 and 32 foot boats were also equipped with radar. The 32 and 26 foot boats have drum powered hydraulic gear to pull the longline. The 24 foot boats have hydraulic gear run off the outboard motors. With the increased fleet fishing capability, fishermen were able to take 148,000 pounds of halibut in 1984. The catch in 1985 was 143,000 pounds of halibut, only slightly less than for 1984.

The catch levels for each year and the number of fishermen and boats are shown in Table 5-13. As this figure indicates, the total number of fishermen, including crew members, increased from six in 1982 and 1983 to 29 in 1984 after the new boats were purchased and the training program was completed.

The primary focus of fishery development in St. Paul has been on halibut, although there is some interest in developing commercial fisheries for other species. TDX sponsored Korean hair crab fishing on an experimental basis in 1979 and 1980. They got the crab mortality rate (for live shipping to Japan) down from 80 percent in 1979 to 10 percent in 1980 and established markets and located stocks for a local day boat fishery. Although this fishery looked financially promising, larger non-local boats over-fished the local stocks, rendering a day boat hair crab fishery unfeasible for St. Paul residents. As to groundfisheries, the limited size of the St. Paul boats would make it difficult to catch sufficient amounts of lower valued groundfish, such as Pacific cod, to make that type of operation feasible. Consequently, groundfish harvesting has not been attempted by St. Paul fishermen.

In 1984, TDX sold the fresh fish processing plant to the IRA Council which now manages it. According to field interview information, TDX only wanted to start the demonstration program, never intending to continue in the fish business. Field interviews also indicated that the plant has not been profitable to date for either TDX or the IRA Council.



TABLE 5-13: SELECTED DATA ON THE ST. PAUL  
 HALIBUT FISHERY, 1982-85

	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>
Catch in pounds	18,000	4,000	148,000	143,000
Number of boats	2	2	9	9
Number of fishermen	6	12	29	29
Price to fisherman	NA <sup>2</sup>	\$.60	\$.90	\$.70

NA: Not applicable

1. Settlement price per pound of halibut.
2. Under the demonstration program, fishermen worked for TDX for salaries in 1982 rather than being paid for pounds of fish sold.

Source: SRB&A field interviews 1985.

Fishermen in St. Paul have the same fishing regulations regarding quota and season as the fishermen from St. George. They fish in the International Pacific Halibut Commission (IPHC) regulatory Area 4C. The boundaries for Area 4C are shown in Figure 5-2. The arrow in the figure points to the Pribilof Islands, with St. Paul the northernmost dot shown.

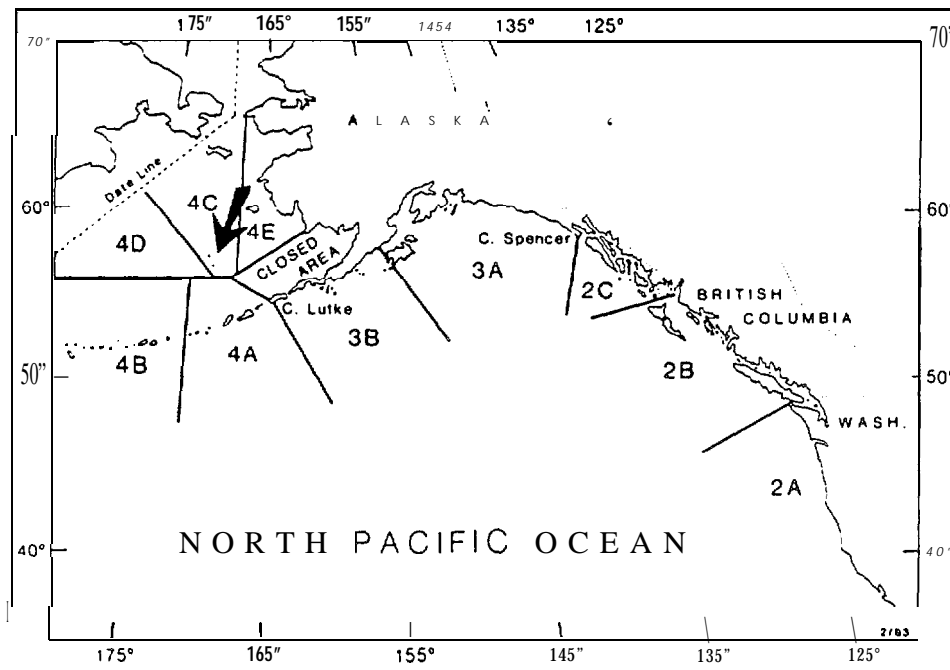
The 1985 halibut season in Area 4C opened in June and was scheduled for fishing on a one day on, one day off basis until August and every day thereafter until October (or until the quota of 600,000 pounds was taken). The quota was reached by July, closing the fishery and resulting in 24 days of potential fishing. Allowing for a few days when the weather was unfavorable probably reduced the fishing time for the St. Paul fishermen to around 20 days. This season was shorter than in 1984. In that year, the season opened in May and ended in July, resulting in 33 days of fishing. The length of time that the season will be open in any year depends to a large extent on the number of large halibut vessels that come in to fish the area. The fishing capacity of these vessels is much larger than the St. Paul and St. George skiff fleet, and their entry into the halibut fishery in Area 4C results in the quota being reached in a short time. During the 1985 season, a single large vessel could enter Area 4C and land 20,000 to 40,000 pounds of halibut in a one-day opening.

Local fishermen anticipated that the one day on, one day off fishing mode would discourage larger vessels from fishing in regulatory Area 4C to some extent. An additional regulatory requirement for hold inspection and vessel clearance acts as a disincentive for the larger vessels to fish in Area 4C. As stated in the 1984 Pacific Halibut Fishery Regulations (IPHC1984:6):

No person other than a resident of Area 4C who lands all of his halibut catch at a port within that area may fish for halibut in Area 4C from any vessel, unless the operator of that vessel obtains a vessel clearance and hold inspection both before and after such fishing in each fishing period that applies to Area 4C and before unloading of any halibut caught in that area.

The vessel clearance and hold inspection required . . . may be obtained only at Dutch Harbor, Alaska, from a customs or fishery officer of the United States or a representative of the Commission.

FIGURE 5-2: REGULATORY AREAS FOR THE PACIFIC HALIBUT FISHERY



Source: international Pacific Halibut Commission (1985), Pacific Halibut Fishery Regulations.

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Despite the regulatory impediments to “outside” fishing vessels, these vessels nevertheless take more than 50 percent of the total quota for Area 4C. This situation is not likely to change in the future since the IPHC does not have the regulatory authority to allocate the quota to a specific group, such as the fishermen of St. George or St. Paul.

● The current harvest quota for Area 4C is 600,000 pounds for all fishermen, whether they are from St. George, St. Paul, or from outside the region. The St. Paul and St. George fleets caught a combined total of 271,000 pounds in 1985, St. Paul’s portion of the catch totaling 143,000 pounds.

#### Employment in Fish Processing

The IRA Council operates the processing operations in St. Paul. Processing is restricted to operation of a production line for halibut. The fish are gutted at sea by the fishing crew. Upon arrival at the fish processing facility at St. Paul, they are weighed, scraped, headed, and put into iced totes assigned to each skipper. No further processing (i.e., filleting or freezing) takes place. The totes are taken to Northern Air Cargo, loaded, and shipped to Anchorage for sale.

The processing workers are mostly young people, 16 to 17 years old. In the most recent season, a typical crew of five seasonal processing workers and one supervisor were employed.

#### Employment in Other Industry

The St. Paul economy has experienced peak employment during the last few years as a result of construction activity. This peak will continue through the 1986 construction season. Current and recent projects include: breakwater, dock, radar station, OCS helicopter transfer facility (Pribilof Offshore Support Services - POSS), 26 single family housing units, a 14 unit senior citizen housing complex, weatherization of all homes, rehabilitation and upgrade of many public and commercial buildings, upgrading the airport runway, upgrade and extension of the electrical distribution system for the power plant to the airport and dock, development of a wind farm on Telegraph Hill, installation of

a new **baseload** generator at the power house, extension of utilities to the new housing area, construction of a boat **launch** ramp at East Landing, conversion of a warehouse into a ship repair and chandlery facility, and construction of outdoor parks.

Table 5-12 shows non-fishing employment in St. Paul for the years 1980, 1982 and 1985. Since 1983, the number of employers on the island has increased substantially. This increase has created more jobs for local residents. During the summer of 1985, more jobs were available on St. Paul than were skilled local people to fill the new positions.

The 1985 total employment **column in** Table 5-12 is based on the summer field investigation and responses to the City of St. Paul census performed in July of 1985. The census survey assessed employment over the entire year as opposed to employment at one particular point in time. In some cases, answers were incomplete and, consequently, employment information from that source is ambiguous. In addition, some entities contacted during the field investigation and subsequent follow-up considered employment data to be proprietary and did not disclose the information. Estimates were made for these firms.

The rapid expansion in the number of jobs created by the City of St. Paul, the IRA Council, and TDX since 1982 is readily apparent, as is the corresponding decline in employment by the NMFS. The school district has also increased its staff during the past three years. OCS and construction employment have accounted for a number of jobs in the community although some are part-time or temporary in nature, resulting in a relatively low number of year-round FTE jobs. The data in Table 5-12 are estimates of those positions held by St. Paul residents. Nonresidents are employed in half (or slightly less) of the approximately 100 construction jobs. The number of nonresidents employed at POSS is unknown as the data were not made available to the study team.

Wage schedules were partially available for major local employers. A comparison of local permanent job wage scales with short term construction scales identified a significant difference: an entry laborer's scale ranges from \$7.50 for permanent positions with local firms to \$20.35 for a flagman on a

construction job. Since an employee can earn more during the construction season than in many 12-month positions with local employers, some local positions are going unfilled.

### Income and Expenditures

The following paragraphs describe income and expenditures for major community organizations. Information is presented in the order of public sector, private sector, and households. The information is from Table A-2.

Table A-2 in Appendix A identifies major sources of community income and illustrates transactions between organizations and households to aid in understanding the possible range of community responses to external economic stimuli such as OCS activities. Major sectors within the local economy were identified and, where possible, the flow of funds between various sectors was traced. It should be emphasized that these results provide relative, not absolute, measures of the economic linkages within St. Paul. Some data sources were unavailable and, consequently, closure of the economic system for the community was not possible. As a result, cross reference totals are not in balance and all expenditures could not be identified.

Data on income sources and transfers were obtained for fiscal year (FY) 1984 when possible; details on financial transactions for programs and operating budgets are shown for that year. Certain funding sources, especially state capital grants, are displayed for several time periods to indicate the magnitude of capital funds and subsequent dependence of local economies on these sources. Analysis of these flows is limited to FY 1984, when possible. Summary tables for the public and private sectors are presented at the end of each section.

### Private Sector

The following sections discuss fish harvesting, fish processing, and other industry segments of St. Paul's private sector economy.

### Fishing Sector

At the end of the season, fishermen in St. Paul receive payment from the IRA Council for fish delivered. In 1985, the IRA Council paid fishermen \$.70 per pound for halibut, making the total revenue from commercial fishing approximately \$100,000. The payment was higher in 1984, when fishermen were paid \$.90 per pound for a total revenue of \$133,200. Out of their payments, fishermen have to make boat payments, pay fishing expenses (for insurance, gear, equipment, and bait), and pay crew shares. The remainder (if any) goes to the boat owner as profit. The short term consequences of not making a profit or boat payments are 1) the loans will not be paid off and 2) the fishermen will not receive a positive cash flow as a result of their fishing activities. If this situation continues over the long term, it may result in the IRA having to cover the loan guarantees for the fishing boat purchases. The IRA would end up owning the boats and the attractiveness of the commercial fishery for both the IRA and the fishermen would decline if it did not result in a positive cash flow.

The IRA Council runs the marine shop where many fishermen, approximately half of the fleet, purchase fishing gear and equipment. The shop is operated as a cooperative for the benefit of the fishermen. Fishing supplies not purchased through the marine shop are ordered from Anchorage or Seattle. The amount of total expenditures for St. Paul fishermen is not known, but it is likely that most fishermen are in a break-even situation, at best, from commercial fishing activities. In 1984, all but one of the boat owners earned enough to meet their boat loan payments. In 1985, only two were able to make boat payments.

### Processing Sector

The hourly wage rate for processing workers was \$9.00 per hour during the 1985 season. The amount of total wages paid to processing workers on St. Paul is not known, but an approximate figure can be estimated. The processing line has to process halibut whenever it is brought in by the fishermen; thus, all fish were processed the same day they were caught. The 1985 season allowed a maximum 24 fishing days, which was probably reduced by unfavorable weather conditions to around 20 days of actual fishing time. The workers are also needed for four days before the season

for mobilization and four days after the season for demobilization, giving a total processing season of 28 days. Multiplying the number of workers (five processing workers and one supervisor) times the number of days worked (28) times the estimated hours worked per day (10 hours) times the hourly wage rate (\$9 per hour) results in total processing wages of \$15,120 for the season, an average of approximately \$2,500 per worker.

As all of the processing workers are local residents (primarily high school age), none of the processing wages are taken out of the local economy by transient processing workers.

#### Other Industry

The following sections discuss other components of the St. Paul private sector economy. These entities include the IRA Council, the regional and village corporations, and major construction firms.

IRA Council. The St. Paul IRA Council operates a community grocery store, the local canteen, and a gasoline station. Estimated total sales for FY 1984 based on field interviews were \$1.5 million; a large portion (\$600,000) was estimated for beer sales at the local canteen. Projections based on other data suggest total sales may approach \$2 million for all IRA Council activities.

The IRA Council grocery store has projected annual sales of about \$1 million with an estimated 90 percent spent outside the community for goods and freight. Canteen revenue is estimated near \$175,000 from beer and miscellaneous sales (e.g., jukebox). About 50 percent of this amount is spent outside the local community for beer, including freight to St. Paul. Gasoline sales, based on household interviews, approach about \$170,000 annually with an estimated 80 percent spent outside St. Paul. Other revenues include receipts from the 1984 seal harvest and miscellaneous sales; estimated "other" revenues are \$256,000 with about eight percent spent outside the local community.

The IRA Council's level of economic activity was estimated near \$1.9 million in 1984, with 37 percent of these funds going to the local



economy. A significant portion of these expenditures were for wages and salaries associated with the transition labor force and the seal harvest. Wages and salaries for the transition labor force are expected to decline as these individuals find other employment and the trust funds are depleted. Seal harvest wages and salaries will increase substantially in 1986 when the IRA Council becomes the sole employer, but permanent employment will remain fairly constant with some slight increases resulting from the chandlery and other marine support.

Tanadgusix Corporation. TDX is St. Paul's ANCSA village corporation. Its operations include the King Eider Hotel in St. Paul, a restaurant and gift shop, and land leases for the helicopter transfer facility, POSS. Estimated revenues for FY 1984 are \$2.8 million; much of this revenue came from federal purchases of bird rookeries (\$888,000) and seal harvesting (\$869,000). The data presented here do not include revenues or expenditures for the International Inn in Anchorage, a TDX joint venture subsidiary.

Expenditures are estimated at \$875,000 with about \$256,000 (29 percent) spent on the fur seal harvest. An additional \$485,000 is projected for general and administration wages and salaries in the community. The company's payroll numbered close to 150 people during peak summer construction and seal harvest periods in 1984 and 1985. TDX spent about \$95,000 for utilities and about \$30,000 for city sales taxes. About 94 percent of all expenditures (\$824,000) are for local wages and salaries, payments to the City of St. Paul, and general and administrative expenses. The remaining six percent was paid to nonresidents for wages and salaries related to the seal harvest and general administration.

TDX contributes about 30 percent of its \$2.8 million budget to the St. Paul economy. Over \$700,000 is paid in the form of wages and salaries to local residents. Of this amount, approximately \$110,000 was paid to employees who were hired as part of the transition labor force and \$255,000 was paid for seal harvest labor. Wages and salaries paid by TDX to local residents will decline in 1986 as the corporation eliminates its association with the seal harvest. Future village corporation activity will provide stable, full-time employment for approximately 30 people.

The Aleut Corporation. In 1985, the regional corporation provided \$115 dividends to an estimated 481 shareholders in St. Paul, a total of \$55,000. This amount went directly to community households. The regional corporation has paid four annual dividends since 1971: \$100 in 1980, \$100 in 1982, \$110 in 1984, and \$115 in 1985.

The Aleut Corporation also operated POSS near the airport on land leased from TDX. POSS provides camp management, catering, labor, and equipment services to the three oil companies that are conducting oil and gas exploration activities in the Bering Sea. This facility is the Aleut Corporation's first investment in the oil and gas industry in Alaska. Construction of this helicopter support base cost about \$9.4 million but it did not produce any operating revenue or expenditures during FY 1984. (For additional information, see Summary of Trends and Anticipated Developments in the Local Economy.)

The Aleut Corporation contributed about \$55,000 in FY 1984 to St. Paul residents in the form of corporate dividends. The amount of dividends may increase slightly due to profits generated by the POSS base. Wages and salaries paid by the Aleut Corporation to St. Paul residents will increase significantly in 1985 due to the opening of the base. Employment and income generated by construction of the facility is included in the previous discussion of the construction industry. Wages and salaries paid to local residents since the camp opened for operation are estimated at \$500,000; annual wages and salaries for operation of the facility are anticipated to approach \$1 million. This helicopter support facility can accommodate more people than the 25 persons it presently handles with only minor requirements for additional staff. As a result, potential increases in exploration activity are not anticipated to generate a significant amount of additional income in the community.

Construction. St. Paul had several large projects under construction during FY 1984, producing an estimated \$25 million in expenditures principally for state funded capital projects and POSS (Aleut Corporation 1985c; Alaska Office of the Governor 1985). About \$1.7 million went to the local economy, mostly for wages and salaries. The remainder went to TDX

for land leases and hotel/dorm revenues, and to the City of St. Paul for **fuel** and utilities.

Construction on St. Paul Island accounted for approximately 90 percent of **all** private sector economic activity in 1984. The \$24.9 million dollar estimate is based upon the total funding amount for all construction projects active in **1984** even if the project has or will require more than one year for construction, such as the breakwater. The contribution to the **local** economy in 1984 is based upon employment data for construction firms and estimates of purchases of local materials and supplies. Approximately seven percent of total construction value was spent in the **local** economy in 1984, with most of this amount going toward wages and salaries.

Several of the major construction projects underway **on St. Paul** have required a number of nonresident employees due to the relatively complex nature of the job and requirements for persons with substantial construction experience and skills. **Future** construction activities should **result** in greater local employment due to the increased experience and training of St. Paul residents and **the** anticipated reduced **level** of complexity for future construction projects.

Other. Tourists spent about \$135,000 for **hotel**, air fare, meals, and transportation in 1984. About 44 percent was spent outside the local area, primarily for air fare.

Table 5-14 summarizes the private sector expenditure data for Table A-2, and shows the contribution that each component makes to the local economy.

#### Public Sector

Capital and operating funds are discussed below for St. Paul's federal, state and city governments. Appendix Table A-2 provides detailed data on public sector expenditures for FY 1984.

TABLE 5-14: ST. PAUL PRIVATE SECTOR SUMMARY

<u>Organization</u>	<u>Total Funds</u>	<u>Contribution to Local Economy</u>	<u>Expenditures Outside of Community</u>
IRA Council	\$1,909,600	\$ 716,000	\$1,193,600
Tanadgusix	2,780,000	824,000	1,956,000
Aleut Corporation	55,000	55,000	0
Construction	24,913,000	1,713,000	23,200,000
Other	<u>363,000</u>	<u>303,000</u>	<u>60,000</u>
Total	\$30,029,600	\$3,787,500	\$26,409,600

Source: Patrick Burden & Associates, estimates (1985).

## Federal

Appropriations. St. Paul received three major federal appropriations. The first was paid under the Indian Claims Commission's (ICC) settlement dated July, 1979. This settlement (the "corned beef" money) provided \$8.5 million to the Aleut communities of St. George and St. Paul; terms and conditions mandated that 80 percent of the funds went as direct payments to individuals and 20 percent to communities.

The second appropriation was a \$1 million contract to the City of St. Paul from NMFS. Funds were provided for upgrading a large number of unspecified facilities and utilities left by NMFS for the city to use or operate. The third major appropriation came under the provisions of the Fur Seal Act of 1983. St. Paul received a total of \$12 million from the \$20 million trust. These funds were placed in trust under the management of a federal government appointed trustee. Access to these funds is subject to trustee approval of specific program requirements.

Social Service Programs. St. Paul residents received about \$149,000 in social service money for FY 1984. About 73 percent of this total went directly to households for such programs as social security, veterans benefits, and educational funds. The remainder went to medical facilities and other agencies such as the Aleutian/Pribilof Islands Association (A/PIA), according to state Office of Management and Budget (OMB) reports and Bureau of Indian Affairs (BIA) records.

Revenue Sharing. The City of St. Paul received \$41,919 in federal revenue sharing in 1984.

Housing. Federal housing funds flow through U.S. Department of Housing and Urban Development (HUD) programs and A/PIA's Aleutian Housing Authority (AHA). A direct program appropriation of \$133,386 was reported by state OMB summary reports for FY 1984. In addition, 14 new houses have been constructed at an average of \$68,000 each, according to HUD officials, for a total project cost of \$952,000.

Economic Development. Grants received included: \$2.5 million to the City of St. Paul for a dock; \$600,000 to the IRA Council for boat launch ramp; and \$152,000 to the IRA Council for planning.

Other. Other federal funds were programmed for small business financial aid, \$20,802, and \$300,000 to the University of Alaska for **Pribilof** Islands Center training programs.

#### State

Capital Funds. St. Paul received a significant amount of state capital construction appropriations for the period FY 1981 to FY 1986. A total of \$17,437,000 was identified for major infrastructure development such as harbors, the airport, and other facilities. This estimate does not include construction projects funded through state agency programs.

Social Services. State social service money for St. Paul is projected at \$212,601 for programs such as unemployment compensation, Longevity Bonus, low income housing loans and energy assistance, Aid to Families with Dependent Children (AFDC), food stamps, comprehensive programs for the aging, and the village public safety officer (**VPSO**) program. Virtually all of this money is directed to St. Paul households; some is retained by **A/PIA** for administrative costs of the **VPSO** program. Social service assistance is provided by the state from **Unalaska** and by **A/PIA** from Anchorage.

Revenue Sharing. Two state programs (municipal assistance and revenue sharing) provided \$197,457 of state funds for St. Paul in FY 1984.

Other. State funds included \$4,000 for business development, \$55,000 for planning and coastal zone management, \$3,100 for support of the arts, and a recreation program appropriation of \$102,493.

#### Local

A/PIA. The Aleutian/Pribilof Islands Association provides social services and employment training from its headquarters in Anchorage. It also provides funds for two village public safety officers, funds for community health aides, and money for a summer youth employment program. Total

estimated expenditures for **A/PIA** in St. Paul are \$92,000, excluding housing programs. About 72 percent of A/PIA's program money for St. Paul is estimated to remain in the community.

A/PIA's administrative fee for housing administration is projected at 20 percent or about \$217,000 of the \$1.085 million St. Paul **HUD** housing project.

School District. St. Paul and St. George are the only members of the **Pribilof Islands** School District the local Regional Education Attendance Area (**REAA**). Total state support was **\$1.67 million in FY 1984**. The funds were allocated between the two communities based upon the percent of student population. St. Paul had 129 of 159 students and was allocated \$1.3 million.

City of St. Paul. Financial statements submitted to the Alaska Department of Community and Regional Affairs (**ADCRA**) for FY 1984 indicate total revenues of \$1.48 million and total expenses of **\$1.39 million**. Total state funds were estimated as \$230,400 for revenue sharing, municipal assistance, and liquor tax. Federal revenues were \$49,900 for revenue sharing. City sales taxes provided \$72,600 at a three percent tax rate. Other city revenues totaled \$222,900 for fines, fees, **lighterage**, etc. Additional revenues included a **loan** from the Fur Seal Act totaling \$840,730.

St. Paul assumed most of the former **NMFS** functions at the beginning of this fiscal year (a nine month period) and spent a major portion of its budget on these functions. The mayor and council cost \$76,100 and general city administration was \$334,400; city services were \$131,800. Public works administration was \$93,800 with machine shop expenditures an additional \$185,200. Roads cost \$15,500 with the maintenance shop and special projects costing \$328,300 and \$226,600, respectively.

Table 5-15 summarizes public sector expenditures for FY 1984. The data suggest the economic role of each organization in St. Paul on a relative basis only. Information has been adjusted to show the fund sources at the community level. For example, State of **Alaska** capital construction grants and appropriations are

TABLE 5-15: ST. PAUL PUBLIC SECTOR SUMMARY

<u>Organization</u>	<u>Program Funds</u>	<u>Contribution to Local Economy</u>	<u>Expenditures Outside of Community</u>
Federal	\$ 497,400	\$ 456,600	\$ 40,800
State	194,400	183,800	10,600
APIA	309,500	66,500	243,000
School District	1,350,000	1,026,000	374,000
City of St. Paul	<u>1,391,700</u>	<u>944,000</u>	<u>447,700</u>
Total	\$3,743,000	\$2,676,900	\$1,116,100

Source: Patrick Burden & Associates, estimates (1985).



not shown in the public sector for state; however, they are included in the private sector construction industry (Table A-2) because most of these funds are awarded by state agencies directly to the contractor, who in turn spends money in the community for labor and supplies. State support of education is included in the estimates for the school district as another example of the logic used in constructing this table.

The State of **Alaska** is the major economic force in **St. Paul**. The state has expended over \$17 million in special appropriations and grants since FY 1981 and contributes over \$2 million in program funds to the City of St. Paul and other public sector organizations. Less than \$200,000 of these annual program funds have been identified as going directly to households in the community. The economic "boom" that has accompanied these state sponsored construction projects is anticipated to end in FY 1986 with a concomitant reduction in employment and income in the community.

The federal government is another significant force in the public sector economy, with over \$16 million identified for the ICC Settlement, the NMFS transition and upgrade, Fur Seal Act Trust, bird cliff purchases, land leases, Federal Aviation Administration (FAA) construction, and the 1984 seal harvest. Some of these funds are directed to **TDX** and the IRA Council. An additional \$1.4 million in federal program funds have also been identified. A HUD housing program accounts for slightly over \$1 million of this amount.

Approximately \$78,000 in program funds go directly to households with the remainder provided to other public sector entities or as grants to TDX. The role of the federal government should decrease significantly in the near term. Program funds may remain relatively stable, but special appropriations will decline dramatically. In addition, the \$12 million trust established by the Fur Seal Act of 1983 is being depleted to sustain the existing labor force through a period of transition. It is uncertain if a stable economic base will be established before these funds are exhausted. Federal employment associated with the Coast Guard facility, Postal Service, Public Health Service (PHS), and Weather Service is expected to remain stable.

The City of St. Paul spent approximately \$1.4 million in 1984, with roughly \$940,000 of that amount contributing to the local economy. Some of these funds went toward wages and salaries paid to members of the transition labor force employed by the city. This level of expenditure is not sustainable without assistance from the Trust. The Trust contributed \$840,730 to the City of St. Paul from October 1983 to June 30, 1984, while other revenues totaled only \$639,333. The amount of funds contributed by the Trust covers the estimated cost of \$800,000 for 42 members of the transition labor force. Municipal employment will be decreased to a base operating level of about 30 full-time positions within 12 months and will remain fairly constant thereafter.

The **Pribilof Island** REAA is estimated to have contributed slightly more than \$1 million to St. Paul's economy out of \$1.35 million total expenditures. The large number of preschool age children implies that state support for education in St. Paul will continue to increase for at least the next five years.

A/PIA allocated approximately \$310,000 to its programs in St. Paul. Of this amount, \$66,500 was contributed to the local economy with the remainder (\$243,500) being spent for A/PIA activities and support in Anchorage and Unalaska. An additional \$868,000 was estimated to have gone to the construction industry for housing. As mentioned previously, A/PIA's programs are among those most subject to public sector budget reductions, and a decrease in the amount of these funds going to St. Paul is anticipated.

### Household Income and Expenditures

#### Family Income

The 122 households in St. Paul had an average earned income of \$27,300 for FY 1984, based on City of St. Paul census data (City of St. Paul n.d.). The difference between projected local income and projected expenditures is about \$1.6 million. This difference is due to unearned income (such as Aleut Corporation dividends, State of Alaska Permanent Fund dividends, and government transfer payments directly to individuals), consumer debt financing, and sampling error.

### Family Expenditures

Eight families were interviewed at St. Paul to estimate household expenditures. These responses were consolidated and grouped by category as shown in Table 5-16. Expenditure amounts are for an average household of four people. Additional information on household expenditures can be found in Patterns of Household Economy.

St. Paul households spent about \$1,001,400 in FY 1984 for food and \$1,554,800 for utilities (Table A-2). About \$1,569,400 was spent on items such as subsistence supplies, home repair, and travel. Housing expenditures were \$840,300. An additional 57 percent was spent locally (\$2,825,500) with 25 to 30 percent spent in Seattle or other Lower 48 locations, and the remainder in Anchorage and other Alaska cities.

### Summary of Trends and Anticipated Developments in the Local Economy

The St. Paul economy has historically centered on the fur seal harvest. However, the future of commercial and subsistence harvests, and the subsequent contribution of the sealing industry to St. Paul's economy, is uncertain. In response to NMFS withdrawal and this uncertainty, the Overall Economic Development Plan (OEDP) Committee of St. Paul has addressed the issue of future economic growth in the community. In a recent update (St. Paul OEDP Committee 1985), the approach to future economic development for St. Paul was presented in four different sectors: OCS support, fisheries, marine support services, and tourism.

Discussions with TDX officers indicate they will continue to seek development of St. Paul as a support base for the oil industry. Such development would include continuation and expansion (as needed) of the POSS helicopter support base and development of a marine facility after the harbor is completed. The facility will support seismic survey vessels and work boats for exploration (and development) rigs. Oil and gas support services envisioned by the OEDP Committee for St. Paul are dependent upon oil and gas discoveries in proximity to St. Paul Island. Proposed services include an expanded personnel transfer camp, marine staging berths in the harbor, the use of local labor for construction of onshore facilities, storage and transfer of equipment and supplies, and food and water provisioning.

TABLE 5-16: AVERAGE MONTHLY **HOUSEHOLD**<sup>1</sup> EXPENDITURES IN ST. PAUL

<u>Expense Category</u>	<u>Average Monthly Expenditure</u>	<u>Percent of Total Expenditures</u>
Food	684	20
Utilities	1,062	31
Housing	574	17
Other	<u>1,072</u>	<u>32</u>
Total	\$3,392	100%

1. Average of 4.6 persons per household.

Source: Field interviews (1985).

Primary community emphasis for economic development is to develop a fish processing and harvesting industry on the island. Fisheries accomplishments to date have been to establish a day fishery for halibut and to operate a processing facility to process the catch from the fishery. Due to a number of factors, such as the short fishing season and the high transportation costs to ship processed fish to market, the revenues from fishing operations have not yielded an overall profit to the community. Future operations planned for fisheries include continuation of the halibut fishery, with added fisheries for Pacific cod, flounder, pollock, Tanner crab and Korean hair crab. The OEDP Committee has stressed the need to develop fishing operations that are not dependent upon a single species or market.

The study team anticipates that for the near term future, the fisheries on St. Paul will continue to be day-boat operations. The physical size of the skiff fleet provides a limitation on the fishing activities of the fishermen from St. Paul. When the weather is unfavorable or weather conditions are uncertain, the boats cannot be used to fish. The boats also restrict fishing activities to inshore areas and limit the amount of catch that can be safely transported to port. The fishermen in St. Paul would like larger boats in order to catch a larger share of the halibut quota. According to an opinion expressed by a fisherman during the field interviews, fishermen will not be able to make a profit until they get bigger boats.

In their future plans for commercial fishing in St. Paul, the IRA Council hopes to fund two 60 to 70 foot halibut schooners. Acquisition of such vessels would allow fishermen from the community to expand their fishing activities beyond the current season length into fisheries for other species. The current status of the project to fund and acquire these vessels is not known.

TDX plans to sell their two boats to the Central Bering Sea Fishermen's Association. TDX will have no further involvement in commercial fishing after this sale occurs, since the IRA Council has taken over other aspects of management of fisheries operations.

Further fishery development will take place when a 1,400 foot breakwater funded by the State of Alaska is completed in 1986. Other harbor components will be

completed thereafter although funding for these components is uncertain. The primary purpose of the port is to promote fishery development. Once the new dock facility is operational, fishermen will no longer have to haul their boats out of the water after each use as is currently the case. The skiffs can continue to be used in the new harbor, but fishermen will have the capability of utilizing larger vessels if they so choose.

St. Paul plans to work with joint venture partners in future fisheries development to take advantage of technical expertise offered by established seafood processing companies. Fish processing operations are expected to expand through establishment of an onshore processing company in the harbor area. Current plans focus on a multi-species operation to provide processing employment opportunities for as much of the year as possible. The question of whether an onshore or floating processor will be of most benefit to the community has not yet been resolved.

The marine support services envisioned by the OEDP Committee include a fuel depot, emergency repair, ship chandlery, provisioning of vessels, crab pot storage, supply of ice and water, emergency medical services, communications, cold storage, and marine and mechanical repair.

Tourism is expected to remain at a fairly steady level in St. Paul, but the OEDP Committee promotes the goal of increasing tourism revenues by providing greater diversification of services and by entering a long term program to upgrade existing facilities.

When reviewing these plans for future economic development, it is important to recognize that many of the economic enterprise activities listed above are similar to those being pursued by the residents of St. George. The potential clash of the future economic plans for the two communities may cause some degree of competition. The fishery operations of St. Paul and St. George are currently in competition for a share of the 600,000 pound halibut quota in IPHC Area 4C. The future plans to attract a fish processing company in the harbor may also be cause for competition between the communities. Similarly, the plans for providing services and provisions to support OCS related activity and to attract tourists to the island may cause competition between the communities because it may not be possible for both to share in the activities.

The OEDP Committee acknowledges that St. Paul is experiencing a potentially short-term construction boom associated with the construction of the breakwater, the dock, housing, the chandlery shop, the OCS helicopter support base, a radar station, an FM radio station, extension of the electrical system and upgrading of the utilities and buildings inherited from the federal government. They state, "It is also apparent that, **unless** other economic development projects are undertaken, the construction boom may end as early as the **fall** of 1986" (St. Paul OEDP Committee 1985). They believe capital projects construction has provided employment for the community until the basic harbor, utility, and business infrastructure are developed.

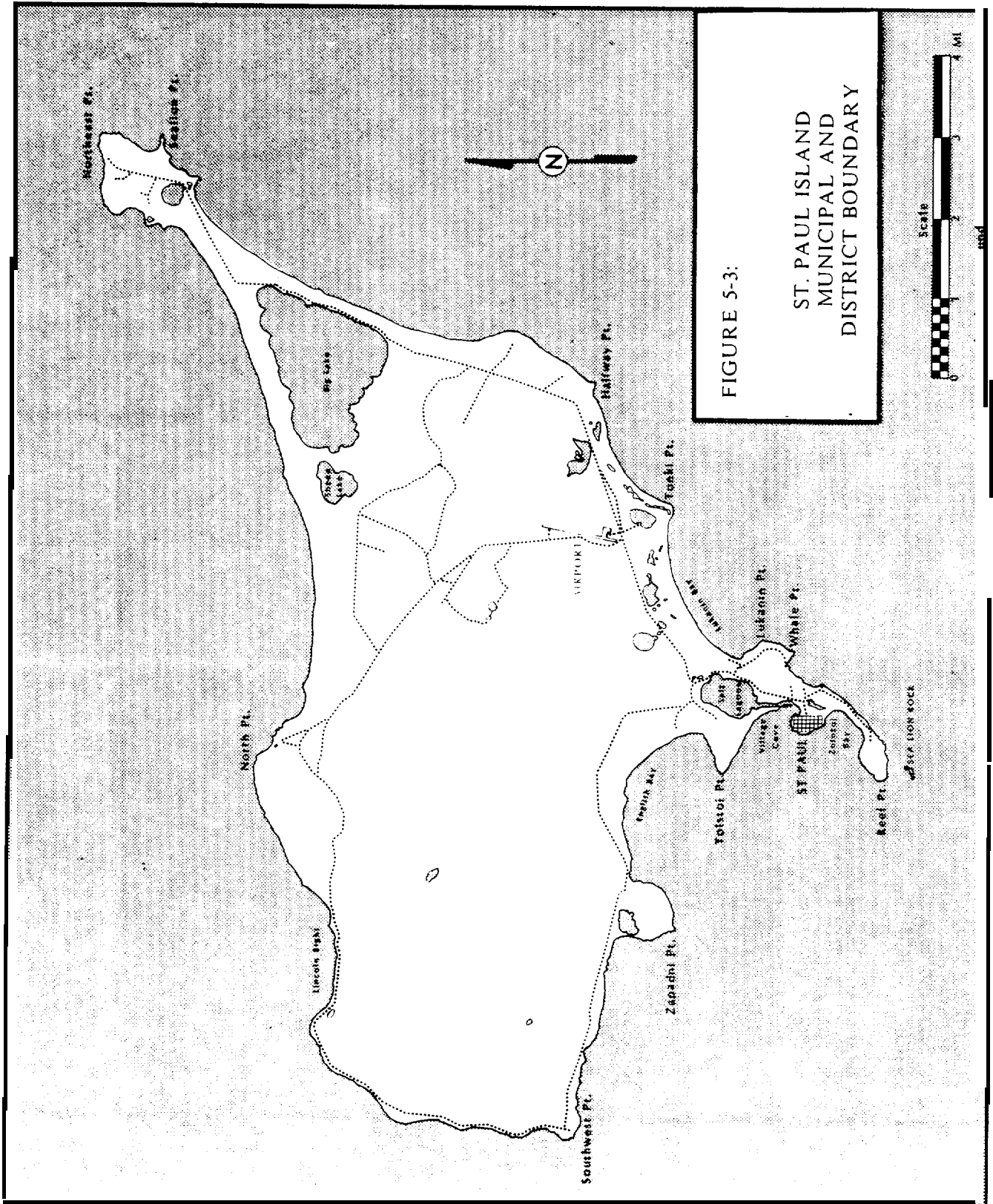
Present construction projects will end after the 1986 construction season and, unless additional funds are forthcoming, employment, associated wages, and income on St. Paul **will** decline. However, the community has sought, and continues to aggressively seek funding from state and federal sources. Given the success they have had **in** obtaining grants and special appropriations in the past, it is likely that additional funds will be forthcoming to continue construction activity, though perhaps **at lower** levels than the present "boom."

If the **level** of economic activity does decline, it is anticipated that the community will spend available funds in **the** Trust (i.e., on the transition labor force) at a faster rate than originally anticipated or seek further state and federal assistance. In the worst case, residents will migrate elsewhere to seek employment or they **will** seek individual public assistance.

## LAND USE AND HOUSING

### Land Use

The City of St. Paul currently encompasses a 44 square mile area including St. Paul Island and Sea Lion Rock. **In** addition, the city has petitioned the ADCRA Local Boundary Commission to annex both Otter and Walrus islands and the water areas from St. Paul, Walrus, and Otter islands out to the three nautical mile limit. Figure 5-3 identifies the existing municipal boundaries.





For planning purposes, the city has identified portions of St. Paul Island as special planning areas, including: village, development corridor, harbor district, and open lands primarily for subsistence purposes. Figure 5-4 illustrates the village study area and Figure 5-5 illustrates the development corridor.

Although all of the area within St. Paul's political boundaries is used by residents for some purpose (including recreation, subsistence, and tourism), development has occurred primarily inside the **village** and along the corridor between the village and airport. Most of the island's 600 residents live in the City of St. Paul. The remaining population (approximately 30 Coast Guard and federal employees) reside at the U.S. Coast Guard Loran Station and Weather Service Station, and at the 120 person POSS camp, all of which are located about three miles northeast of the city, next to the airport.

The village is comprised of two developed areas: **the** original townsite (Old Town) and **Ellerman** Heights, also called the "Uptown" area. The original townsite, located on Village Hill, has been developed for residential, commercial, industrial, and institutional uses, whereas **Ellerman** Heights is predominantly residential.

Figure 5-6 shows existing land use in the City of **St. Paul** and Table 5-17 summarizes existing and potential land use according to both the City of **St. Paul's** Comprehensive Plan adopted in 1984 and the **St. Paul Coastal District** Phase I Report accepted in June 1985 (**Norgaard [USA] Inc. 1984e & 1984f**).

### Residential Land Use

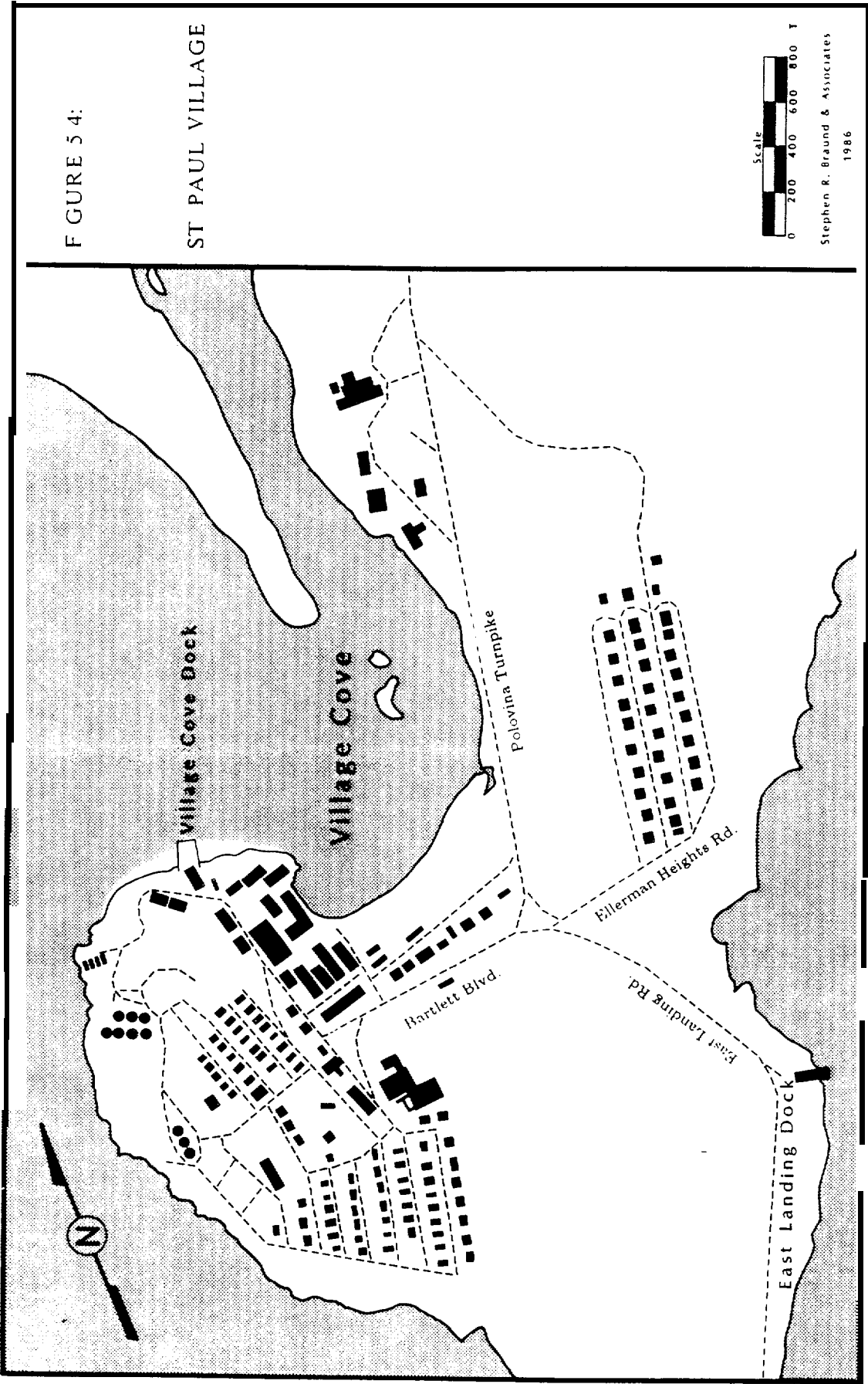
As previously mentioned, two residential areas exist on St. Paul Island: Old Town and **Ellerman** Heights. Land for future development of additional residential units has been designated by the city at **Ellerman** Heights.

#### Old Town

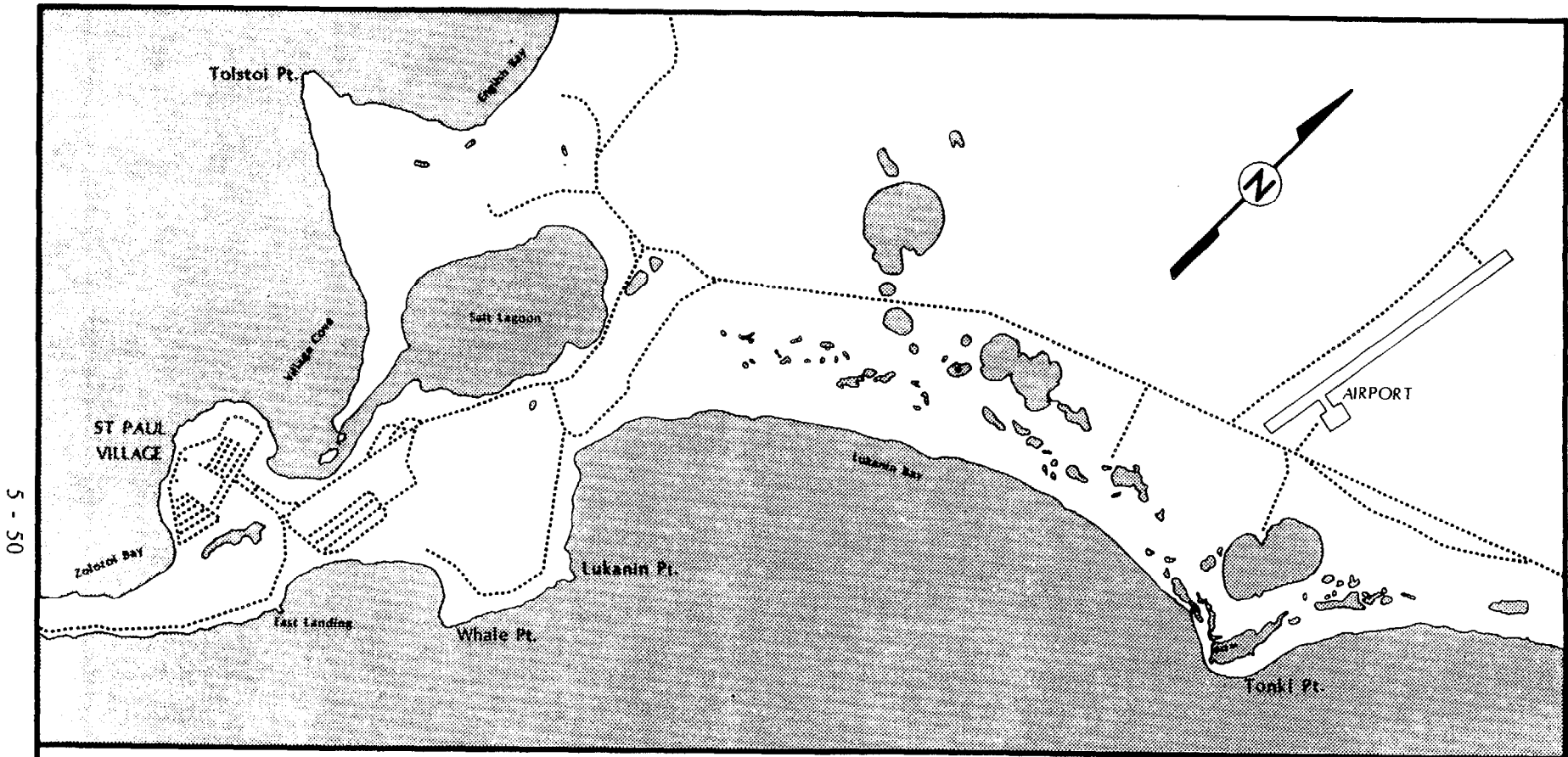
Residential lots in the original townsite range in size from 5,500 to 6,000 square feet and are served by roads and utilities. Of the 100 lots originally surveyed for residential development, 81 have been developed

FIGURE 5 4:

ST PAUL VILLAGE

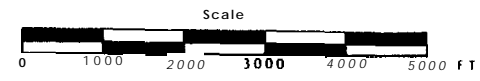


Scale  
0 200 400 600 800 FT  
Stephen R. Braund & Associates  
1986



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FIGURE 5-5: ST. PAUL DEVELOPMENT CORRIDOR



Stephen R. Braund & Associates 1986

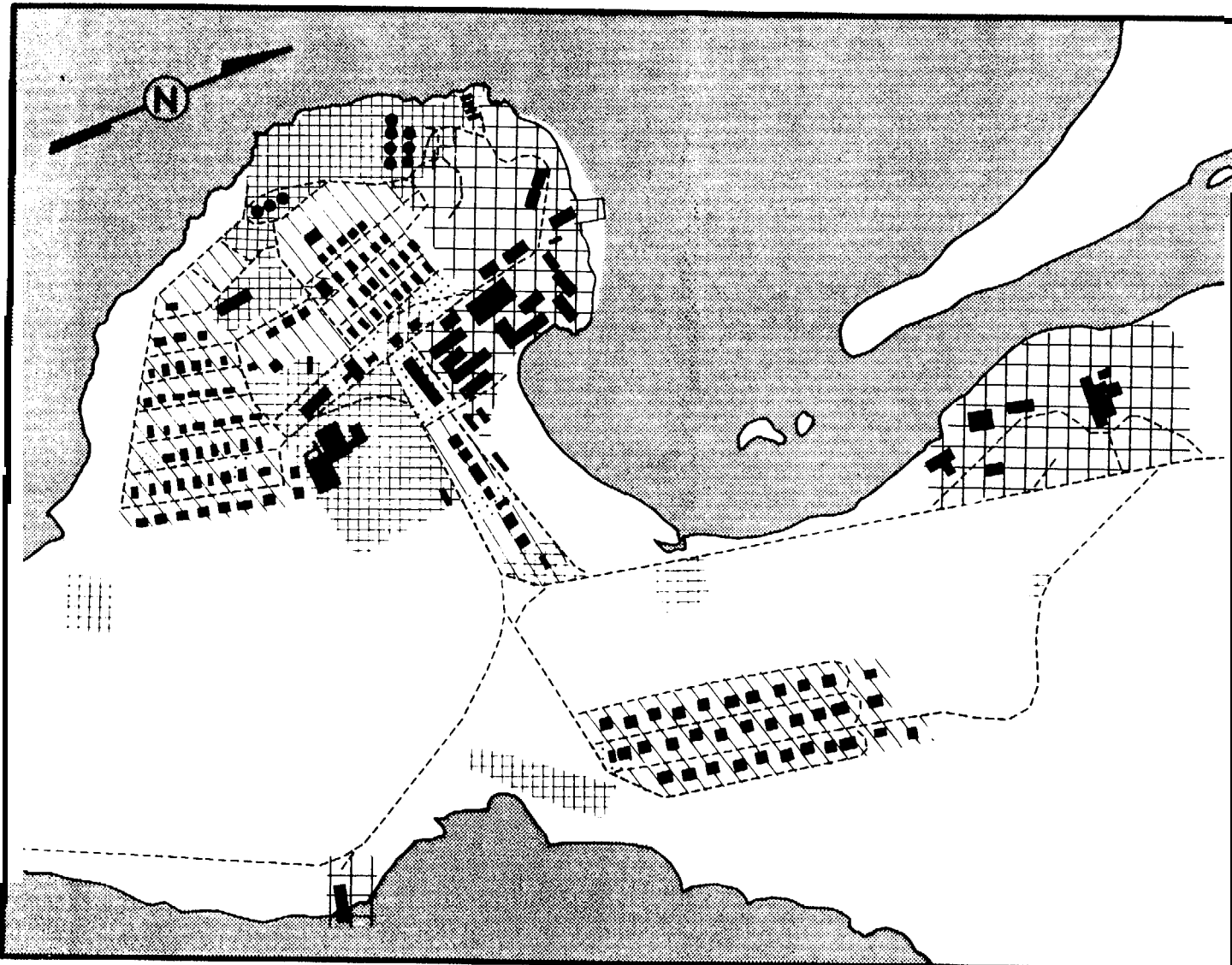





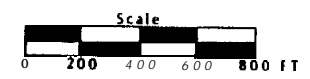


FIGURE 5-6:

ST. PAUL  
EXISTING LAND USE

-  Commercial
-  Industrial
-  Institutions],  
Public
-  Open Space
-  Residential



Stephen R. Brand & Associates  
1986

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TABLE 5-17: EXISTING, VACANT AND POTENTIAL LAND USE  
BY DEVELOPMENT TYPE

<u>Type of Use</u>	<u># Acres Developed</u>	<u># Acres Vacant</u>	<u># Acres Potential</u>	<u>Total Acres</u>	
Residential	30	1	22	53	*
Industrial					
Harbor	12	6	0	18	
<b>Kamanista</b>	10	0	0	<b>10</b>	
Airport	4	NA	6	10	
Borrow Pits	49	0	0	49	
Commercial	<b>8</b>	3.25	<b>24</b>	35.25	-
Public/ Institutional	420	NA	NA	680	
Subsistence/Undeveloped/Open Space/Parks/Public Resource Management					
St. Paul Island	0	NA	NA	26,546.75	
Walrus Island	0	NA	NA	44	
Otter Island	0	NA	NA	122	

NA: Not applicable.

Sources: Norgaard (USA) Inc. ( 1984e), Community Planning: Draft Comprehensive Plan. Norgaard (USA) Inc. (1984 f), Community Planning: Coastal District Phase I Report.

into single family dwellings and two into duplex units for a total of 85 residential units on 83 lots. An additional lot has been used for the construction of a civic center. The city has proposed that 12 of the 16 remaining vacant parcels be transferred into **public** ownership (from TDX) for use as park and open space areas. One of the four remaining parcels includes a structure previously used as a cafe that is now vacant. Only one of the remaining three vacant parcels appears suitable for residential construction based on the soil and topographic characteristics of the site.

### Ellerman Heights

**Ellerman Heights** is situated about one-third mile east of the original townsite and has been platted for residential use. Since 1970, 32 single family homes have been developed in the **Ellerman Heights** area. Thirty of these homes were constructed by AHA and the other two homes were constructed independently. In addition to the above 32 homes, 26 single family dwellings and a 14 unit complex are currently under construction. (Of these units under construction, 20 of the 26 single family units and the multi-family housing complex are being constructed by the AHA; the remaining six single family units are being developed by the Pribilof Islands School District [**PISD**] for teacher housing.) Upon completion of the homes currently under construction, **Ellerman Heights** will contain a total of 58 single family homes and the 14 unit complex.

● **Ellerman Heights** was **replatted** in 1984 as part of AHA's development plan for new housing. According to the new **plat**, four additional lots are available for future single family housing development.

● Lots in **Ellerman Heights** are approximately 10,000 square feet for single family units; the multi-family complex required a 128,396 square foot parcel. Occupied units are served by both roads and utilities, and the city is in the process of developing roads and utility service to units currently under construction.

● The 1984 City of St. Paul Comprehensive Plan (**Norgaard [USA] Inc. 1984e**) identified land for additional single and multi-family residential development to the north of the existing residential areas in **Ellerman**

Heights. This includes approximately 10 acres for multi-family residential development and 12 acres for single family units (10,000 square foot lots). While this area has been designated for residential development, it has not been platted. The only development plans being considered by the city are for the potential development of a four building, 32 unit multi-family housing complex. Planning for the multi-family complex is being sponsored by ADCRA. If the project is pursued and funding secured, construction **would** not commence until 1987 at the earliest (field interviews 1985).

#### Existing Multi-Family Areas

The Alaska Dorm (28 units), the King Eider Hotel (one apartment and 23 two-bed rooms), and two duplexes (four units) are owned by TDX. The King Eider Hotel caters to tourists and other visitors to the Island. The duplexes and the Alaska Dorm have typically housed permanent residents, (TDX employees are given preference) teachers, construction project workers and offices, and other temporary workers. The Government House (three units), owned by the IRA, is occupied by permanent island residents. The NMFS' 24 unit staff quarters houses temporary residents, PISD personnel, and federal employees.

Over the last two years, several apartment units have been converted into offices: three units in the Hotel Annex, one unit at PISD office, and one unit at the Government House (field interviews 1985).

#### Transient and Temporary Housing

In the village area, transient housing is provided by two facilities owned and managed by the village corporation (the King Eider Hotel and the Alaska Dorm). In addition, a temporary 24 person construction camp (built by Calista during harbor construction, leased and managed by TDX), and a residential unit that the city purchased from a private owner in 1985 and converted into a 20-bed dormitory also provide lodging for temporary island residents.

#### Residential Land Use Outside the Village Area

Residential land use outside of the village consists of employee accommodations and islanders' recreational camp houses. Employee housing

is provided at the U.S. Coast Guard Loran station (22 individuals), POSS camp (120 employees), and the U.S. Weather Service (two single family units and three apartments). All of these employee camps are located near the airport. Three recreational camp houses, belonging to and used by local residents, are located at Murunich, **Tazmania**, and Northeast Point. Two additional camp houses were located at Southwest Point and **Zapadni** Point, but these houses were destroyed in the last two years (field interviews 1985). The lots are still recognized by the city as residential lots in anticipation of the camps being reconstructed.

### Commercial Land Use Areas

Three commercial land use areas exist on St. Paul: Old Town, Mid Town, and **Ellerman** Heights. Future expansion of commercial land use has been designated for the Mid Town Area according to the City of St. Paul Comprehensive Plan.

#### Old Town

Commercial enterprises are distributed throughout the original townsite, including the community theater, (located at the top of Village Hill near the water tanks and currently vacant), the **Lestenkof** Cafe (across from City Hall and including a small store), a video rental shop, and Steve and Ann's Curio Shop.

#### Mid Town

Bartlett and **Tolstoi** boulevards in the original townsite area are the center of commercial activity on St. Paul Island. The King Eider Hotel, **Aleut** Community Store (which houses the store, Reeve Aleutian Airlines offices, and a new laundromat), tavern, the gas station and Hotel Annex (which houses TDX offices) are the primary commercial uses. The IRA council is currently completing the conversion of Point Warehouse into a ship chandlery and marine vessel repair facility. Also an off-road vehicle and motorcycle rental shop is located near the Assembly of God church between Old Town and **Ellerman**.



### Ellerman Heights

Two small commercial enterprises, a combined gift shop/coffee shop and a video rental shop, are located in **Ellerman Heights**. Both of these shops are located within a single-family residence.

### Future Areas

Little additional area is available for commercial development of the hotel/store/tavern complex. However, the city has identified two areas for commercial expansion within their 1984 Comprehensive Plan: 1) expansion of the existing commercial center through redevelopment; and 2) designation of land between the **Ellerman Heights** residential area and Airport Road for future light industrial uses that could include commercial activity. The total land area in Mid Town designated for commercial use encompasses approximately eight acres, 3.25 of which are currently in other use. The commercial/light industrial area located at the base of **Ellerman Heights** along **Polovina Turnpike** would allow for the development of an additional 20 to 24 acres of commercial/light industrial activities.

### Light Industrial Use Areas

The city designated three areas for light industrial use in their comprehensive plan: the harbor district, lower **Ellerman**, and the airport district. Existing light industrial land use areas are located at the harbor and airport.

### Harbor District

The harbor district in Village Cove is the center of industrial activity on St. Paul. Industrial use includes the seal processing plant and associated shops and warehouses. The 18 acre industrial site includes 17 medium to large scale structures in the harbor area complex located in the original townsite, and four industrial structures in the seal carcass processing compound on the eastern shore of the Salt Lagoon outlet channel.

According to the comprehensive plan (Norgaard [USA] Inc. 1984e), additional industrial development can be accommodated by redeveloping several areas, filling in industrial sites, and developing vacant lands located both between the harbor and seal processing complexes and to the north of the

carcass processing facility. The city is in the process of developing a harbor master plan and a coastal management plan which will identify the size, location, and type of development or redevelopment necessary for industrial areas. Both plans are scheduled for completion by the spring of 1986.

Of the approximately 18 acres contained within the harbor industrial area, about six are currently undeveloped due to constraints such as sand dunes and sandy soils that require stabilization before development of industrial use and service roads.

A **drainfield** located in the western part of the area serves nearby commercial and residential uses as well as the seal processing complex to the west. The city is pursuing funding for the construction of a combined sewer outfall, which may allow for the elimination of the drainfields.

A parcel north of the carcass processing facility has been identified as being suited for industrial development when water, power, and sewer services are extended to support such use and when provisions are made for adequate protection of the adjacent outlet channel from the Salt Lagoon.

The city is in the process of extending electrical service from the existing power plant to the airport. It is anticipated that this extension will be completed by mid-1986, thereby providing electrical service to new developments within the village and along **Polovina** Turnpike.

#### Lower Ellerman Heights

Presently no commercial or light industrial use exists at Lower **Ellerman** Heights. However, the city has designated approximately 20 to 24 acres along **Polovina** Turnpike for future commercial and/or light industrial land use.

#### Development Corridor

In addition to industrial lands associated with the harbor district, two other light industrial areas have been identified by the city for potential future development: **Kamanista** Ridge Quarry Site Reclamation and Airport industrial areas.

The **Kamanista** Ridge Quarry area has been developed to provide rock for the breakwater. One of the options for reclamation/restoration of this area is for light industrial and warehousing purposes related to harbor operations. The ultimate size of the area available for industrial development will be subject to the area disturbed through quarrying operations, estimated to be about eight to 10 acres. Potential developments identified during **field** interviews included crab pot storage, drilling mud storage, and other non-water dependent uses. This area has not been officially designated for industrial development by action of either the city or the planning commission.

The airport industrial area currently includes the POSS camp (four acres). The city's comprehensive plan identifies the general area suitable for industrial development near the airport. The plan does not specify the exact siting or boundaries of the airport industrial area, yet it does mention that potential minimum **land** area for such use **should** be 10 acres. Refer to the Transportation Land Use section for a discussion of the St. Paul airport facility.

#### Institutional and Public Land Use

Institutional and public land use areas are located both within and outside the village. Institutional **lands** include those managed by the school and church, whereas areas managed by local, state, **and** federal agencies constitute public land use.

#### Institutional Land Use

Institutional land use is predominantly located in the village area and includes the PISD office, the school, the Russian Orthodox Church complex, cemetery, and Assembly of God church. The total area is approximately 420 acres.

The PISD office is located on **Tolstoi** Boulevard across from the community store. The **log** structure serves as the administrative headquarters for both the St. Paul and St. George schools. The building is on a 6,508 square foot site. No plans exist for the expansion of the facility or the development of additional administrative facilities.

The St. Paul school is on a site of approximately 4.8 acres at the intersection of Tolstoi and Bartlett boulevards. The facility is currently in the process of being transferred from federal to state ownership. Future expansion will be required to meet anticipated increases in demand. Therefore, the school district has developed a long range facility plan to accommodate anticipated need which includes a five acre parcel in Ellerman Heights. However, a specific site has not been designated for the development of additional school facilities. No additional land in the vicinity of the existing school has been set aside for the expansion of the facility, but the existing 4.8 acre parcel could handle a moderate level of expansion of the structure.

The 1.04 acre Russian Orthodox Church complex is located on Village Hill and includes the church, priest house, church school, and a cemetery. No plans exist for the expansion of facilities on the site nor for the development of additional sites (field interviews 1985).

Two cemeteries are located on the bluff south of Ellerman Heights. The cemeteries encompass half an acre in a common surveyed parcel. A vacant area connecting both sites into a single parcel is identified in the official U.S. Survey of the township. Additional lands within the surveyed parcel will be used for future cemetery expansion.

The Assembly of God church is located at the intersection of Polovina Turnpike and Bartlett Boulevard. The half acre site includes one structure. Requests have not been made for either an extension of the existing structure, or for additional land, to the city or the planning commission (field interviews 1985).

#### Public Land Use Areas

Three types of public land use areas exist on St. Paul Island: facilities and services; resource and wildlife management; and subsistence. Total area in public land use is 26,869 acres.

Facilities and Services. Facilities and services include: the U.S. Post Office, PHS clinic, U.S. Coast Guard Loran station, Weather Service station, radar tracking station, and NMFS headquarters (all of which are under federal management); the airport and **Polovina** Turnpike (under state management); **and** the infrastructure, utility easements and right-of-ways, City Hall, **local** roadways, park areas, and other municipal buildings (under municipal management).

The Post Office is located on an 8,265 square foot site on **Tolstoi** Boulevard **in** a structure owned by the **IRA** Council. At present, no official plans exist for either the expansion of the structure, or development of a new federally owned facility (field interviews 1985).

The PHS clinic, the only health care **facility** on the island, is located in the original **townsite**. The facility is situated on three residential-size **lots** totaling about 17,512 square feet. The hospital/clinic is adequate for meeting existing needs. However, development of a harbor and port services at St. Paul probably **will** require a larger medical facility and additional capabilities, including a full-time physician. Little room exists for expansion of **the** facility on its present site, but a vacant area (approximately 5,000 square **feet**) to the south, owned by the village corporation, may provide some space for expansion.

The Loran station is located on a 72 acre site **along Polovina** Turnpike and includes two buildings, fuel tanks, and a tower. To date, the city has not been advised of any plans to expand or vacate the facility (field interviews 1985).

Located near the entrance to the airport on a 60 acre site, the Weather Service station includes a garage, office building, tower, and two residences. The facility provides weather data for the community and the nation. The city has not been advised of any plans to expand or vacate the facility (field interviews 1985).

A radar tracking station is located on the top of Lake Hill and is managed by personnel at the Loran station. The facility was constructed in 1984

and encompasses two acres. No additional plans for expansion of the facility or land area have been made known to the city (field interviews 1985).

NMFS intends to retain ownership and management of two facilities located within the village: staff quarters and the office complex. The specific land area to be retained is currently being surveyed and is estimated to be approximately two acres.

The 67 acre airport is in the process of being transferred from the federal government to the state. In addition to the lands withheld under section 3(e) of ANCSA by NMFS, the state is negotiating with the village corporation to acquire adequate land area to meet FAA standards for the airport. The total airport will ultimately encompass 300 acres. Current facilities include a runway, apron, fuel tanks, parking area, and a metal storage building. The city is planning to construct a small terminal facility at the airport by the summer of 1986 (field interviews 1985). Refer to Community Facilities and Services for additional information regarding this facility.

The 3.6 mile road between the intersection of Polov na Turnpike and Bartlett extending to the airport is managed by the State of Alaska. However, the road is maintained by the city on a year-round basis.

The city's facilities include buildings, right-of-ways, easements, and park areas. Specific facilities used by the public include the City Hall, parks, and local roads.

A 12,000 square foot building, the City Hall is located at the top of Village Hill in Old Town and houses city administrative, social service, recreation operations, magistrate office, courtroom, police station, jail, Social Service Alcohol and Family Counseling office, Alascom offices, and Sitka Telephone Company offices. The structure is located on a 1.084 acre site leased from the village corporation.

The city has secured **land** leases and funding for the development of two parks: Village Hill and **Ellerman** Heights. The village hill park will include a playground, trail, and sheltered viewing **area**. Future plans for this park also include the development of a boardwalk along the bluff with observation areas and informational signs.

The present site encompasses five acres. However, the city planning staff is considering the potential for securing a total of 10 acres for park and open space uses at the top of Village **Hill** to provide a contiguous parcel from City Hall to the viewing area. However, a portion of the future park area includes the **old** theater, which is **in** private ownership; the remaining lands are owned by the village corporation.

The city has also received funding from the state to develop a portion of a nine acre park at **Ellerman** Heights. The facility is planned to include a picnic shelter and barbecue area.

The city maintains 34 miles of roads on the island. Of these, 3.6 miles are maintained under an agreement with the state. Roads within the village and between the village and airport are maintained on a year-round basis. Other roads are maintained **only** during summer months.

Public Resource Management and Subsistence Use. Public resource management and subsistence use areas encompass approximately 24,500 acres of land on St. Paul Island and **all** of the land areas **on** **Walrus** and Otter Islands and Sea Lion Rock. Other than the lands on St. Paul Island, all lands are included and managed as part of the Alaska Maritime National Wildlife Refuge pursuant to the Alaska National Interest Lands Conservation Act (ANILCA) of 1980. The local Natives have the right to use these areas for subsistence activities.

There are two types of federally managed public land areas on St. Paul Island: fur seal rookeries under the jurisdiction of the NMFS and "Bird Cliffs" managed by the U.S. Fish and Wildlife Service (USFWS). There are 1,012 acres of seal rookeries on the island, to which access is regulated by permits from June to October each year. USFWS lands encompass

approximately 2,240.59 acres. These areas do not currently have any restriction to public access and local Natives have subsistence rights for egg gathering and hunting. According to the village corporation (the owner of adjacent land), no official requests for the acquisition of additional lands by the **USFWS** have been made (field interviews 1985).

The **USFWS** is in the process of receiving an additional 35 acres of land on **Tolstoi**, pending approval of the patent. However, in a letter from the **USFWS** regarding the St. Paul Coastal Management Plan, the agency has indicated an interest in acquiring additional management authority of lands near Salt Lagoon (field interviews 1985).

Much of the island outside the village is used for recreational and subsistence purposes (hunting, egg collecting, berry picking, reindeer herd management, hunting, and hiking). These lands encompass approximately 21,000 acres and are owned and managed by TDX.

#### Transportation Land Use

Transportation related land uses on St. Paul include three types of systems: air, land, and water. Air transportation facilities include the airport and the OCS helicopter support base (**POSS**). Land transportation systems include approximately 34 miles of roads throughout the island. Water transportation facilities include two existing docks plus the breakwater and dock currently under construction. There are no transportation systems or facilities on Walrus or Otter islands or on Sea Lion Rock.

#### Air Transportation Systems

The existing 67 acre St. Paul airport has a north-south oriented gravel runway, 150 feet wide and 5,075 feet long. The airstrip is equipped with medium intensity runway lights, a rotating beacon, a lighted wind sock, an approach light system, a moderate instrument landing system, and a nondirectional beacon. An 8,000-gallon aviation gas facility also is located at the site. There are no terminal building hangars or maintenance and repair facilities; however, a small storage building adjoins the airstrip. Additional parking and a new public access road were added in 1985.



### Land Transportation Systems

As previously mentioned, about 34 miles of roadway serve St. Paul Island. The city is served by four miles of streets, and the additional 31 miles provide access to other parts of the island. All roads on St. Paul Island have a **scoria** surface with a well drained sand and **scoria** subgrade. Road widths are 40 feet in the more well traveled areas of the island such as from the city to the airport, and from the airport to the weather service facility. Roads on the remainder of the island, such as the roads to rookeries, are 20 to 25 feet wide. There are few, **if** any, drainage culverts, but drainage is not a problem because the subgrade is adequately porous. There are many chuckholes that result in above normal wear on vehicles.

Total land areas, including proposed right-of-ways for road systems on the island include: airport road, **46** acres; village roads, 14.5 acres; harbor haul road, 1.4 acres; and other roads serving the remaining portion of the island, 145.5 acres (Humphrey 1983).

### Water Transportation Systems

West Landing, the dock in Village Cove, has been the primary marine facility on St. Paul **Island** (Figure 5-4). It is a reinforced concrete pier with a face length of **100** feet and adjacent water depths of three to four feet at mean low tide. A secondary dock is located at East Landing approximately one-half **mile** east of the city. This dock is used when strong winds prohibit use of the West Landing dock. Neither of the docks on St. Paul **Island** is capable of off-loading cargo or passengers from **medium-** or deep-draft vessels. Cargo is lightered from ships to the piers by mechanized landing crafts, barges, and **baidars** (shallow draft traditional vessels).

The West Landing dock has a self-propelled skid crane with a 10 ton capacity. There are no cargo storage facilities at the dock. As a result, delivered cargo must be picked up immediately. Seven diesel storage tanks with a combined capacity of 600,000 gallons and four gasoline storage tanks with a combined capacity of 100,000 gallons are located at the dock (Norgaard [USA] Inc. 1984h).

Harbor construction began during the 1984 season with the building of a rubble mound breakwater. In the fall of 1984, the initial breakwater structure sustained major damage. At present the facility has been redesigned and completion of construction is planned for the fall of 1986. It will include a rubble breakwater with a 200 foot dock. The breakwater has been funded by the State of Alaska; the dock was funded by a \$2.5 million grant from the U.S. Department of Economic Development; and the extension of power, lighting and electrical hookup at the dock was funded by a state grant. "

#### Land Use and Planning Authority

The City of St. Paul has assumed planning, zoning, and platting authority pursuant to Title 29 of the Alaska Administrative Code for a second class municipality. In the fall of 1984, the St. Paul Planning Commission and the City of St. Paul adopted a comprehensive plan (Norgaard [USA] Inc. 1984e). This plan identifies existing and future land uses for St. Paul Island (Figure 5-7). However, the city does not presently have approved zoning, platting, or subdivision ordinances nor a building permit process.

In 1984, the city formed the St. Paul Coastal Management District. This organization's board began preparation of the coastal management plan and the implementation of ordinances. A first phase report was published in 1984 (Norgaard [USA] Inc. 1984f) and a public hearing draft plan is scheduled for issuance by September 1986.

Both the comprehensive plan and the draft coastal management plan identify specific criteria that will be used in evaluating requests for land use and development until appropriate ordinances and plans are adopted and implemented.

Future land use and development criteria include:

1. Subsistence areas will be protected from development.
2. Rookeries, bird cliffs, and coastal areas will be retained in their natural state.
3. Historic, archaeological and cultural sites, landmarks, and structures will be protected and enhanced.
4. The existing village site will be retained.

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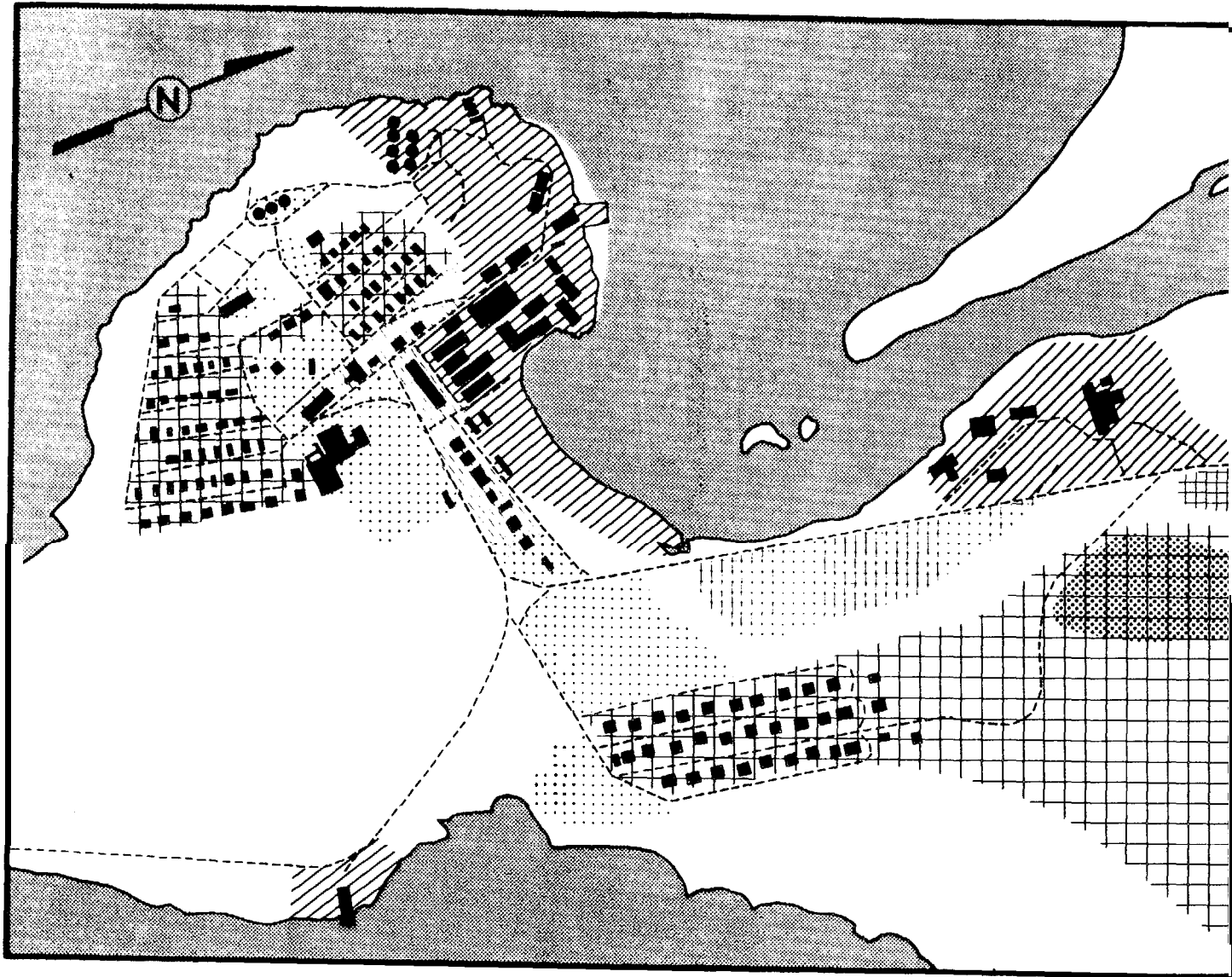







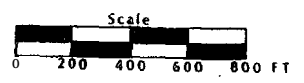


FIGURE 5.7

ST. PAUL  
POTENTIAL LAND USE

-  Commercial
-  Com./Light Industrial
-  Industrial
-  Institutions
-  Open Space
-  Residential Multi Family
-  Residential Single Family



Stephen R. Braund & Associates  
1986

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5. Additional land required for economic development will be established in areas planned for utility and public service extension.
6. All future development shall be controlled to minimize adverse impacts on the cultural and natural resources of the island.
7. Adequate land will be set aside to support economic development related to fisheries.

#### Constraints and Opportunities for Development

In the development of the St. Paul Coastal Management Plan, specific issues and concerns were identified by the city that will continue to warrant special consideration. Some will need additional effort in the form of continued study or investigation if their needs are to be mitigated or resolved.

The following issues have been identified by the city as issues and constraints on development within the municipal limits.

- o Land Ownership and Management
- o Fisheries
- o Hydrology
- o Geology and Soils
- o Subsistence
- o History and Culture
- o Oil and Gas Exploration and Development

A brief discussion of each of these issues is presented below. Future coastal program efforts will be aimed at further development and concomitant incorporation into the **implementational** tools of the St. Paul Coastal Management Program (field interviews 1985).

#### Land Ownership and Management Concerns

Prior to October 1983, most land on St. Paul Island was owned by the federal government and was under the management of the NMFS, the USFWS, the Weather Service, and the U.S. Coast Guard.

With the withdrawal of the NMFS, a substantial amount of land was transferred to TDX. At present not **all** property transfers have been completed. It is anticipated, however, that the majority of transfers will be executed by the end of the calendar year 1986.

However, at present, the major landowners on St. Paul Island include the USFWS, U.S. Coast Guard, Weather Service, State of Alaska, and TDX. Municipal facilities are, for the most part, located on **leased** lands.

In the near future, the City of St. Paul will acquire needed property under the reconveyance provisions of **ANCSA**, Section 14(c)(3). To the extent possible and required, municipal reconveyances **would include** resource protection or enhancement as recommended within the coastal management plan.

Private land management policies and practices may encourage or constrain **land** use and development within the city. Private landowners require clear title to property if they are to attract joint venture and other private investments (**field interviews 1985**).

The city has adopted a comprehensive **plan** which provides **an** analysis of land use opportunities and development constraints. This plan allocates land for industrial uses near the harbor and airport. The city is in the process of formulating and adopting regulations and ordinances to guide land use and development according to the **goals** set forth in the comprehensive **plan**. In addition, the **goals**, policies, and procedures included in the upcoming coastal management plan also will serve to identify permitted and disallowed **land** use and development within the city limits.

#### Fisheries

The development of a major harbor and port facility in Village Cove on St. Paul Island **will** provide the basic infrastructure for local, state and national participation in the fisheries of the central Bering Sea.

The impact of fisheries development on St. Paul Island goes beyond the shores of Village Cove. Additional coastal area impacts identified by the city include pressures for the development of:

- o Industrial processing facilities both within and near the harbor area;
- o Commercial ventures, including chandlery, etc.;
- o Support services including public safety, medical and emergency services;
- o Increased use and trespass on traditional subsistence and recreation land;
- o Increased demand for better air transportation facilities and services.

The city's planning for the use and development of the coastal areas for the fisheries industry considers not only those lands located within the harbor area but also lands and resources throughout the entire district.

To meet the local requirements for establishing a new economic base and to respond to the potential demand for OCS activity within the Navarin and St. George basins, the city has recently submitted a Coastal Energy Impact Program loan request **pre-application** (field interviews 1985). This application identified potential OCS activity, impact on land use and municipal operations, and requested additional funding of harbor improvements to accommodate marine and air support services for the oil and gas industry.

#### Hydrology

St. Paul Island is totally devoid of surface streams. Therefore, the inhabitants of St. Paul rely on ground water for their fresh water supply. The source of this ground water is rainfall which infiltrates the ground through the porous soil and rock.

However, on St. Paul Island, the fresh water aquifer and the sea have a delicate relationship. The subsurface fresh water "floats" on sea water which has infiltrated the island's subsurface from its perimeter. Drawing down the level of the fresh water aquifer at any well site has the simultaneous effect of drawing the sea water up into the aquifer. A delicate balance exists between the two which, once violated, will cause irreparable salt water intrusion into the water supply. Increased demand could have catastrophic consequences if proper planning and investigation are not performed.

Due to this ever present danger of contamination of the single fresh water aquifer on St. Paul Island, additional hydrologic analysis and testing is being conducted by the city to determine their potable water system capacity and priority uses. At a minimum, the critical watershed which recharges the aquifer is being verified and accurately mapped to direct any development away from the area.

### Geology and Soils

At present, only generalized data are available on the soils and geological structures on St. Paul Island. Increased detail is required for the identification of: areas which must be given particular attention; natural conditions prohibiting structural development; and areas where no development should be allowed. For example, while it is common knowledge that lava tubes exist throughout the island, existing data are too generalized to adequately direct development away from such areas.

In addition, the level of topographic data is limited to specific sites for which surveys have been conducted. While information on the National Oceanic and Atmospheric Administration (NOAA) navigation chart provides a visual illustration of the island's relief data, the **scale** is not adequate for use in planning and development decision-making. For this reason, additional topographical surveys are planned for the village and the development corridor on the island in the near future. Geologic conditions may constrain the siting and type of development within the city. However, in **all** probability, geologic constraints can be offset by proper siting and design of facilities.

### Subsistence

A great deal of research has been conducted on the traditional way of life of the **Aleut** people of St. Paul **Island**. Subsistence activities range from hunting reindeer in upland areas, hunting birds and gathering eggs, gathering sea urchins and other tidal species, hunting marine mammals, and fishing. Other activities include berry picking and gardening activities. The protection of subsistence resources and their utilization for local subsistence use remains a high city priority. Thus, most development will be directed away from subsistence use areas.

### History and Culture

Present efforts to inventory and designate areas and structures of historical and archaeological significance have been hampered by a lack of funding. In conjunction with the development and implementation of the coastal management plan, such sites and landmarks will be identified in more detail and their protection considered. Land use and development

commencing the process been identified by the St. Paul City Council. However, the city has secured interim conveyances, leases and easements from the village corporation and NMFS to meet their immediate requirements for development of parks, wind farms, and other specific projects.

At the time of the **ANCSA** conveyances to the village corporation, the federal government retained ownership of certain parcels (ANCSA 3(e) withdrawals) on St. Paul Island, including the seal rookeries, the **U.S. Coast** Guard Loran station, the **Weather** Service station, landfill, airport, roads, and specific parcels within the village used in NMFS seal operations: the administrative complex, staff quarters, dock at Village Cove, utility systems, fur seal and harbor buildings, and three residential units (three single family units on **Gorbatch** and one duplex on **Bartlett**). The federal government also retained ownership of the school and clinic. Easements were reserved for the island's road system and for access along the shoreline. Total acreage retained under federal ownership comprised 1,597 acres.

Subsurface rights were transferred to the **Aleut** Corporation, with the exception of some areas retained by the federal government.

#### Other Land Transfers

The village corporation sold 2,240.59 acres of land to the **USFWS** for inclusion in federal wildlife management programs.

As part of the federal withdrawal from the **Pribilof** Islands Project in October 1983, a memorandum of understanding was signed between the U.S. Department of Commerce and local representatives (City of St. Paul, TDX, and the IRA Council). This memorandum identified lands to be transferred from federal ownership to local private, local public, and/or state ownership. The transfer of property has not been completed and the schedule for final transfer is uncertain. The memorandum of understanding included general identification of transfer provisions with the majority of lands and buildings going to the village corporation and the school, and the airport and airport road being transferred to the State of Alaska. This document also included provisions for transferring up to 1.5 acres and 200 feet of harbor lands to the IRA



Council, and for leasing to the city necessary lands, right-of-ways, easements, and buildings required for providing public services and utilities.

As of August 1985, no lands had been transferred from NMFS to any local or state agency. Transfer of parcels within the harbor area is pending completion of a survey. Transfer of a few other parcels has been stalled by inaccurate surveying and designation of 3(e) parcels (field interviews 1985).

The city has acquired from the State of Alaska a right of entry permit for the area under the breakwater and dock for the Village Cove harbor project. However, the official tideland lease permit cannot be executed until construction is completed and tidelands are surveyed (at which time the actual size of the parcel will be determined). The city has also obtained water rights for the island (field interviews 1985).

#### Municipal Boundary

At present, the city's boundary extends to mean high water surrounding the island and includes Sea Lion Rock. The city has submitted a petition to the ADCRA Local Boundary Commission requesting the annexation of water and lands to the three mile limit, including Walrus and Otter Islands. Both islands are owned by TDX but are also included in federal refuge management.

#### Federal Ownership

Large parcels of land on the island are and will remain under federal ownership and management (aside from the lands being transferred to state and local agencies). Lands retained by the federal government include NMFS land (1,012 acres, seal rookeries) and USFWS land (2,240.59 acres, bird cliff areas). TDX was not aware of any other plans for federal acquisition or disbursement of additional land areas.

#### State Ownership

Presently, the State of Alaska does not own any land on St. Paul Island. Upon execution of pending land transfers from both the federal government and the village corporation, the state will acquire ownership of the following areas:

airport, 300 acres; airport road, 46 acres; school and teacher's housing, 7.5 acres.

### Private Ownership

The village corporation, TDX, is the major private land owner on St. Paul. Its holdings include 23,564.41 acres at present. If the terms of the memorandum of understanding are met and specified lands are transferred to the village corporation from NMFS, TDX will receive ownership of an additional 440 acres. In addition, TDX conveyed title to residents whose homes were situated on TDX lands. Table 5-18 summarizes land ownership by major land ownership categories. Figure 5-8 identifies generalized land ownership patterns on St. Paul Island as of March 1984.

### Implications for Development

Field interviews and the 1984 comprehensive plan (Norgaard [USA] Inc. 1984e) indicated that land ownership issues currently being evaluated by the city are:

1. The need for the city need to select adequate lands under ANCSA reconveyance to provide for future development of:
  - Parks and open space;
  - Utility systems;
  - Water tanks;
  - Wells;
  - Public safety building;
  - Transportation systems;
  - Recreation centers;
  - Harbor access; and
  - Public access.
2. The need to establish provisions allowing acquisition of school and residential lands.
3. The need to obtain clear title to lands to support economic development through joint ventures and limited partnerships.
4. The two major landowners on the island, TDX and the federal government, will need to participate in the refinement of the comprehensive and coastal management plans and their implementing regulations.
5. Provisions need to be made for the protection and/or enhancement of coastal, historic, and subsistence use areas.

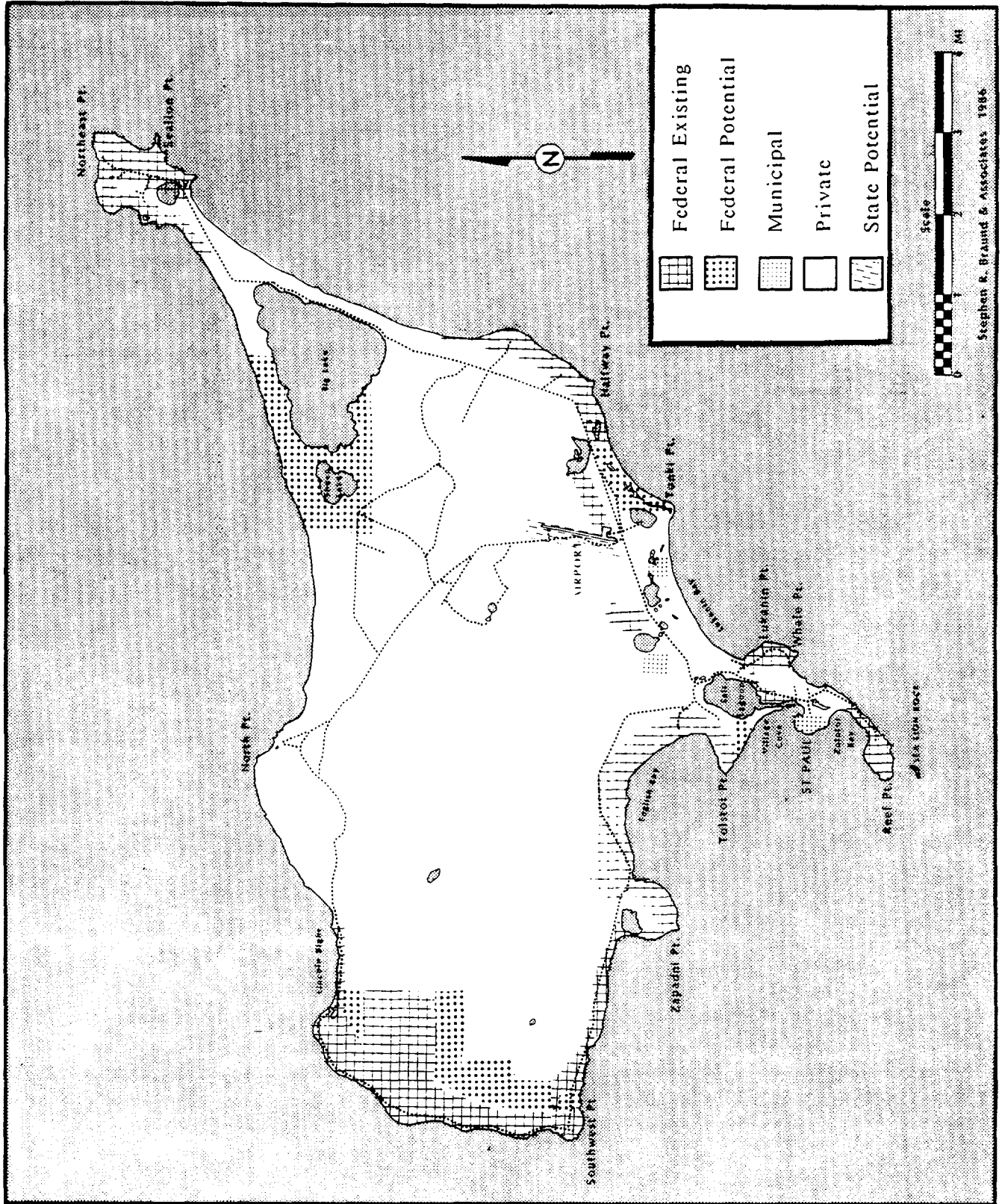
TABLE 5-18: 1985 LAND OWNERSHIP ON ST. PAUL ISLAND

<u>LANDOWNER</u>	<u>EXISTING ACREAGE</u> <sup>1</sup>	<u>POTENTIAL ACREAGE</u> <sup>2</sup>
LANDS ON ST. PAUL ISLAND		
Public Ownership		
Federal Lands	3,837.59	3,255.59
State Lands	0.00	<b>353.50</b>
Municipal Lands	0.00	1,280.00
Private Ownership	23,564.41	22,512.91
LANDS ON WALRUS AND OTTER ISLANDS AND SEA LION ROCK		
Federal Lands	<b>171.41</b>	171.4
TOTAL LAND AREA	27,573.41	27,573.4

1. Prior to conveyance of lands from NOAA under the terms of the memorandum of understanding.
2. Potential acreage refers to the planned transfer of lands from TDX and NOAA to the state and the city.

Source: Field interviews (1985)

FIGURE 5-8: ST. PAUL ISLAND GENERAL ZONING LAND OWNERSHIP



## Housing

### Permanent Year-Round Housing

Prior to the 1970s, homes on St. Paul were constructed by the federal government. A total of 84 two and three bedroom units existed in the village and were constructed in three basic styles: concrete; wood and concrete; and wood frame. Commencing in the early 1970s, federal grant funds were used to develop new housing in Ellerman Heights. Thirty wood frame and modular units were constructed in single and split-level styles. Table 5-19 identifies years when local residential housing units were constructed.

### Housing Characteristics

Existing housing stock ranges from older homes constructed out of concrete to the new modular units. According to the city's home assessments conducted in June 1985, six basic types of housing stock are found in the community: concrete; concrete and wood; one-story wood; two-story wood; split-entry; three, four, and five bedroom HUD modular homes; and 20 unclassified homes. The city is in the process of conducting weatherization and rehabilitation work on all of these homes under a state weatherization grant and a private loan program.

Table 5-20 illustrates the type of residential units by housing stock classification in the village.

### Multi-Family Permanent Year Round Units

Multi-family unit housing has been developed for permanent residents' use over the last several years. This includes: Alaska Dorm, Government House, Hotel Annex, and the transfer of five single family units from teacher housing to local housing (field interviews 1985). The number of total residential units available for local, permanent occupancy is presented in Table 5-21.

TABLE 5-19: ST. PAUL SINGLE FAMILY HOUSING CONSTRUCTION

<u>Date</u>	<u>Number of Residences</u>
Before 1918	1
1919- 1924	5
1925- 1929	39
1930- 1934	7
1935- 1939	0
1940- 1944	4
1945- 1949	4
1950- 1954	1
1955- 1959	4
1960- 1964	10
1965- 1969	10
1970- 1979	20
1980- 1984	0
1985 under construction	<u>26</u>
	131 <sup>(2)</sup>

1. Not including apartments or transient housing.
2. Includes 26 units currently under construction.

Sources: E.L. Gorsuch and T.M. Hull (1983 b), The St. Paul and St. George Overall Economic Development Plan, Appendices. City of St. Paul (1985 b), Residential Weatherization Assessments Data. City of St. Paul (n.d.), 1985 Household Census.

TABLE 5-20: SINGLE FAMILY HOUSING UNIT CHARACTERISTICS

<u>Type of Unit</u>	<u>Number of Units</u> <sup>1</sup>
Concrete Homes	35
Concrete & Wood	8
Two-Story Wood	7
Split-entry with/without single garage	10
Modular HUD Homes	19
Unclassified	<u>22</u>
Total	101

1. Excludes 26 units currently under construction and the Government House (four units).

Source: City of St. Paul (1985 b), Residential Weatherization Assessment Data.

TABLE 5-21: HOUSING AVAILABILITY FOR PERMANENT AND TRANSIENT RESIDENTS

<u>Type of Unit</u>	<u>Number Of Units by Year</u>	
	<u>1980</u>	<u>1985</u>
Single-family	98	131 <sup>(1)</sup>
, Duplex (two units each)	4	4
Multi-family	9	21 <sup>(2)</sup>
Subtotal	111	157
Temporary/Transient Housing	<u>43</u>	<u>87<sup>(3)</sup></u>
Total	154	244

1. Includes units under construction, excluding teacher housing (six units).
2. Includes 14 unit senior center currently under construction, conversion of units into office use by the village corporation and IRA, and the transfer of three units in Alaska Dorm into local occupancy.
3. Includes the conversion of a single family unit into a dormitory and construction of a temporary camp for breakwater construction.

Sources: Dames and Moore (1983 b), Economic Development Strategies Plan, St. Paul Island. City of St. Paul (n.d.), 1985 Household Census. City of St. Paul (1985a), Home Assessments. Field interviews (1985).



### Temporary, Transient and Tourist Housing

Two types of temporary, transient, and tourist housing are available on St. Paul: restricted and quasi-public. Restricted housing units are located at the Weather Service station, Coast Guard Loran station, POSS camp, and NMFS staff quarters. These units can only be used by special permission from federal agencies or off-island owners. A total of 174 individuals can be housed in these facilities. Since they cannot be used by local residents, the units have not been included in an analysis of housing nor in Table 5-21.

The second type of temporary, transient, or tourist housing is called quasi-public because it is managed by local organizations and can be used in emergency situations, at the discretion of the owner/manager, to meet critical housing requirements. The units included as quasi-public housing are: 23 hotel rooms, the 24 unit Calista Construction camp, and the 20 unit Alaska Dorm, all managed by the village corporation; and the 20 person city townhouse managed by the City of St. Paul. Thus, a total of 87 quasi-public units are available to meet housing requirements for temporary, transient, and tourist accommodations. As described in Residential Land Use, the normal use for the hotel is to lodge tourists and other visitors; the Alaska Dorm typically houses permanent residents, construction employees and offices, and temporary employees. The city townhouse provides lodging for contractors, consultants, temporary employees, and official guests of the city.

### Housing Occupancy

According to the census conducted by the city in July 1985, a total of 118 residential units were occupied on a permanent basis and no units were vacant. The AHA informed the study team that 38 families had applied for the 20 new houses under construction, suggesting that upon completion of the new units, 18 families will remain on a waiting list for future housing.

The demand for additional housing is also indicated by the number of persons residing in existing units. Table 5-22 illustrates the number of persons per household since 1940 and includes a forecast based on the completion of the 20 single family units and a 14 unit senior citizen complex during 1986. The

TABLE 5-22: ST. PAUL NUMBER OF PERSONS PER HOUSEHOLD

<u>Year</u>	<u>Units</u>	<u>Population</u>	<u>Average # Persons/Unit</u>	<u>Source</u>
1940	49	273	5.6	1
1946	50	314	6.3	1
1950	50	350	7.0	2
1960	62	392	6.3	2
1966	72	471	6.5	2
1970	76	428	5.6	3
1977	93	437	4.7	5
1980	114	483	4.2	6,3
1985	118	548	4.6	7
1986	152	548	3.6	7

Sources:

1. CH2M Hill (1976), Damages Due to Inadequacy of Compensation, Housing, Goods, and Services Received by the Aleut Communities of St. Paul Island and St. George Island. Vol. 1: Economic Evaluation.
2. D.C. Foote, V. Fischer, and G.W. Rogers (1968), St. Paul Community Study.
3. U.S. Department of Commerce, Bureau of Census (1982 b), 1980 Census of Population and Housing.
4. Alaska Department of Community and Regional Affairs (1970), Selected 1970 Census Data for Alaska Communities.
5. Management and Planning Services (1980), Pribilof Islands Services Plan, Final Report.
6. E.L. Gorsuch and T.M. Hull (1983a), St. Paul and St. George Overall Economic Development Plan.
7. City of St. Paul (n.d.), 1985 Household Census.

community experienced a peak number of persons per unit in 1950 (7.0) and trends have continued to decrease the average household size to 4.2 in 1980, 4.6 in 1985. Persons per unit are forecast to be 3.6 by 1986.

### Planned Permanent Housing

The city has been awarded a grant for planning the potential future construction of up to 32 multi-family units. However, it is not anticipated that construction of these units would take place prior to 1987 due to a lack of state construction funding. Table 5-23 illustrates the total new housing requirements required through 1990 as identified in the comprehensive plan.

### Summary

Prior to passage of ANCSA in 1971, the major landowner on St. Paul Island was the federal government which managed the island mainly for the fur seal harvest. As a result of ANCSA, the major landowner is now TDX, the local Native corporation. After ANCSA, the government retained ownership of its NMFS facilities, the Coast Guard and Weather Service stations, wildlife reserves, and other acreage when the corporation selected its lands. Now that NMFS has terminated most of its activities on the island, the transfer of additional federal government lands and buildings is pending. Most of the land (excluding seal rookeries) will go to the village corporation and the state (airport and school), while many of the NMFS buildings will be transferred to the city.

The community is concentrated in one area along Village Cove, with residential, commercial, public, and industrial uses occurring in the area. Residents travel all over the island for subsistence and recreational activities. Industrial and government enclaves (U.S. Coast Guard Weather Service, and POSS) are situated near the airport, and USFWS lands are concentrated at important bird rookeries along the coastline.

Older housing is located in the original townsite, while newer residential expansion has occurred a short distance away at Ellerman Heights. Considerable transient housing exists on the island which is used to lodge tourists and other visitors as well as transient workers associated with construction, oil companies, and the federal government (e.g., USFWS, NMFS, and Coast Guard).

TABLE 5-23: ST. PAUL NEW HOUSING REQUIREMENTS

<u>Permanent, Year Round Housing Components</u>	<u>1985</u> <sup>(1)</sup>	<u>1986</u> <sup>(2)</sup>	<u>1990</u> <sup>(3)</sup>
Senior Apartments	16	2	7
Single Family Units	38	18	30
Year-round Apartment Units	16	16	32

- Sources: 1. City of St. Paul (n.d.), 1985 Household Census.  
 2. Aleutian Housing Authority (1985), Unpublished list of housing applications and housing starts.  
 3. Adjusted figures based on (1) and (2) from Dames and Moore (1983 b), Economic Development Strategies Plan, St. Paul Island.

## COMMUNITY FACILITIES AND SERVICES

### Public Buildings

The community of St. Paul is served by various **public** facilities, including a civic center, city hall, and school. Since transfer of **federal** property has not been completed, this analysis includes only the identification of **all** structures currently owned by federal, state, and **local** agencies and the potential recipients of such facilities. In addition, since the IRA is a federal tribal council, their facilities are included as a quasi-governmental body. City offices also include a machine shop, powerhouse, powerhouse annex, receiving warehouses, equipment storage, and maintenance facilities.

Proposed municipal structures include a public safety and health facility to accommodate fire, police, and **health** services; **an** airport terminal, vehicle maintenance facility, and a new powerhouse. The city has prepared a preliminary design for **the** phased construction of a **public** safety building. However, **no** source of funding has yet been identified for the new public safety complex. During the **summer** of **1985**, **the** city constructed a holding facility in the City **Hall** to serve as **an** intermediate facility until a new public safety building is constructed.

All public structures on the **island** are in need of renovation to meet building and fire codes. **Many** structures are badly deteriorated and in need of major renovations.

A complete listing of various facilities on St. Paul Island is included in Figure 5-9, as well as brief descriptions of building conditions.

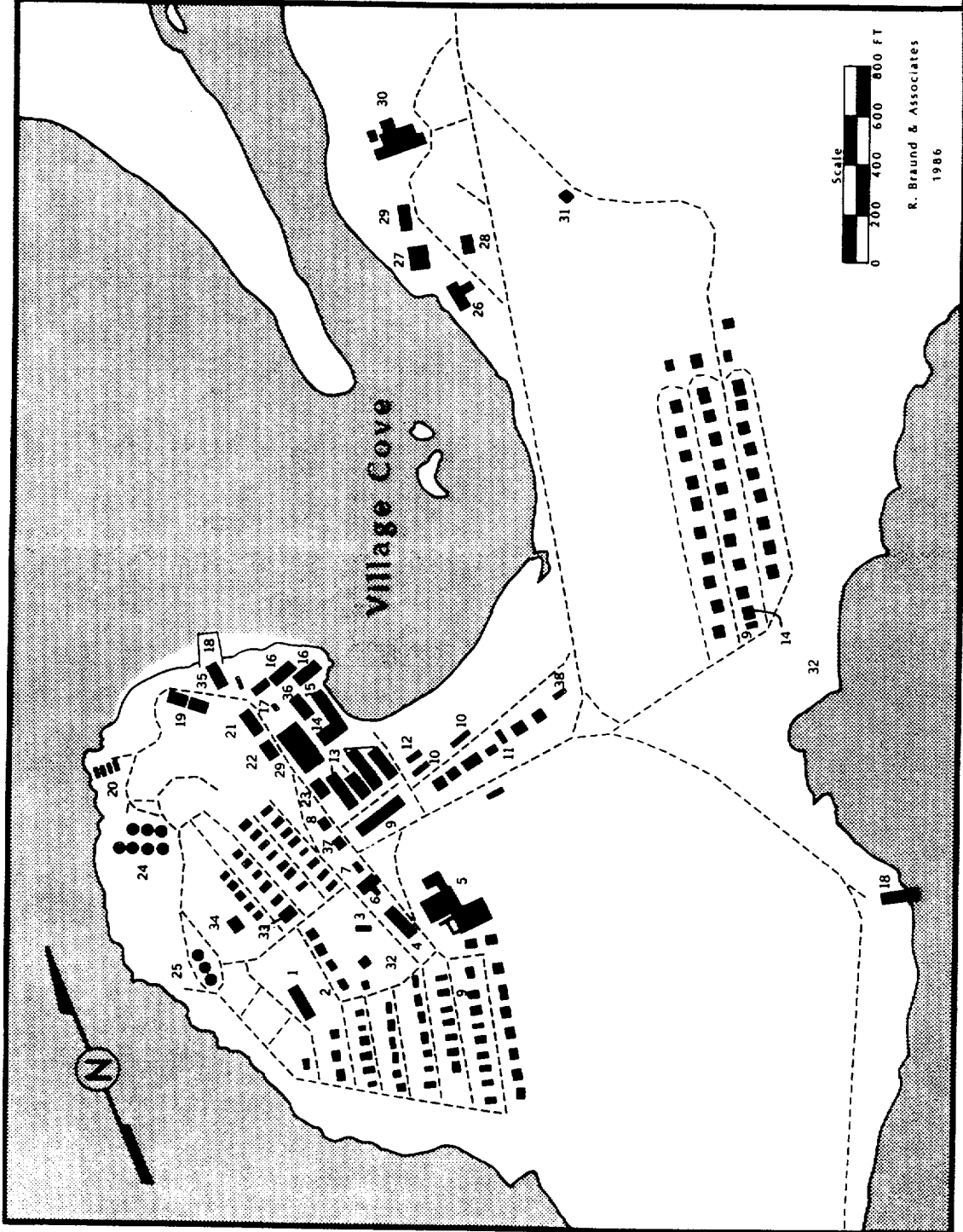
#### 1. City Hall

This facility houses administration, management, and financial services for the municipality. It also includes the holding facility, State Trooper, and VPSO office; magistrate's office and courtroom; **Alascom/Sitka** Telephone office; **A/PIA** counselor's office; and the city recreation center and snack shop. The 12,000 square foot, wood frame structure is at least 25 years

FIGURE 5-9:

ST. PAUL  
COMMUNITY FACILITIES

1. City Hall
2. Lestenkof Cafe
3. Russian Orthodox Church
4. Clinic
5. School
6. Hotel
7. Tavern
8. Post Office
9. Stores
10. Garages
11. Electrical Shop
12. Paint Shop
13. Seal Processing
14. Restaurants
15. Dormitory
16. Warehouses
17. Community Gas Station
18. Docks
19. Generating Plant
20. Gasoline Storage
21. Equipment Garage
22. Machine Shop
23. Hotel Annex
24. Diesel Fuel Storage
25. Water Tanks
26. NMFS Staff Quarters
27. Combine Shop
28. Office
29. Warehouses
30. Seal Carcass Processing
31. Pump House
32. Cemeteries
33. Civic Center
34. Theater
35. Receiving Warehouse
36. Fish Plant
37. School District Office
38. Assembly of God Church



old. It is in need of insulation throughout, plumbing work, correction of fire code violations, and repairs to the ventilation system. However, over the last twelve months, a number of repairs have been made to the structure, some remodeling has been completed, and the building has been brought into compliance with the State of Alaska fire marsh all's recommendations. Over the next twelve months the facility **will be re-sided and weatherized.**

As the city grows and **demand** for government services increases, efficient use of interior space **will** become critical. Continued conversion to office space within this structure increases pressure on existing recreational and meeting facilities (Humphrey 1983).

#### 2. Lestenkof Cafe

A **small** restaurant is operated out of the basement of this residence. The cafe is open during the summer to serve dinners and occasionally opens **during** other seasons.

#### 3. Russian Orthodox Church and Church Facilities

The Russian Orthodox Church, parish **house**, and **school** are located near government housing on **Village Hill**. All these structures are owned by the church. The parish house is currently being rented to a **local** family. The city, through state grants and a private loan, **will** weatherize the residence in the winter of 1985-86. It is anticipated that the parish **house** will be occupied by the new priest **to** be assigned to the community in the next three months (**field** interviews 1985).

#### 4. Clinic

The PHS **clinic** is located between the school and hotel. Constructed in 1929, and remodeled and extended in 1968, there is currently little land available for future expansion of this structure. The facility serves as the local clinic and the office of the A/PIA community health representative. Housing for the physician's assistant is **also** included in the facility but with a separate entrance. The facility includes an office, examination room, **small** surgery room, two bed acute care room, one bed invalid room, Xray and dark room, laboratory, and dental operations

unit. Emergency medical services coordinated by emergency medical technicians, as well as medical evacuation and search and rescue operations, are conducted out of the facility at the present time.

Other than routine medical services, the facility provides emergency medical care and stabilization until the patient can be evacuated by plane. Special medical visits by a dentist and other specialists are arranged at least once a year as PHS funding permits and as the need arises. Some members of the community and the health board are concerned about the quality and continued availability of health service to the community due to the uncertainty of federal funding. Recent federal cutbacks in PHS funding may jeopardize continued staffing and operation of the clinic.

#### 5. School

The existing school is in the process of being transferred from the federal government to the state. It provides education for children from kindergarten through the eleventh grade. However, most children go elsewhere (Anchorage, Matanuska-Susitna area, and Sitka) to complete the eleventh and twelfth grades. The PISD offices are located near the school in a log structure. These facilities include offices and an efficiency apartment (currently used for office space and storage). The school district provides administrative services for both St. Paul and St. George islands. (Refer to the following Education section for additional information on the educational system.)

#### 6. Hotel

The hotel is privately owned and operated by the TDX. Guest accommodations include 23 rooms with a capacity of 42 people. The hotel also has a manager's apartment, office, and a gift shop. Accommodations are considered rustic; no private baths are provided, floors are bare, furniture consists of unmatched remnants from federal buildings, air leaks exist around doors and windows, and heating supply to rooms is inconsistent. The facility is normally restricted to seasonal operation; however, during the last year, special arrangements were made to allow some guests and construction workers to reside in the facility during part of



the off-season. Restaurant facilities are not available in the building. The average hotel and Alaska Dorm room rates in 1985, based on double occupancy, were \$65 per person per night.

#### 7. Tavern

The tavern is owned and operated by the IRA council. The small facility is used predominantly by local residents. It serves beer and wine only and closes during Lent and other religious holidays.

#### 8. Post Office

The post office is owned by the IRA council and leased to the U.S. Postal Service. The facility is staffed by local residents five days a week. Mail is delivered as frequently as planes arrive; however, planes may arrive from one to several times per week. Consequently, mail service is irregular.

#### 9. Stores

The main store facility, owned and operated by the IRA council, includes the community store, Reeve Aleutian Airway offices, store offices, cold storage, and a new commercial laundromat (under construction). The store area has recently been remodeled to improve display area and efficiency. Unofficial plans call for the potential conversion of presently unoccupied space on the top floor for community recreation and possibly bingo (field interviews 1985). Two other small stores/gift shops are located in the village as well.

#### 10. Garages

The garages, one with space for five vehicles and the other with space for six, are single-story, wood frame structures. The five car unit historically has been used for storing vehicles and gear for NMFS biologists. This unit, built in about 1964, has numerous fire code violations and, according to the village corporation, may be torn down within the next year.

In the spring of 1985, the six space garage was converted into a limited automobile service station by the village corporation. The station does

repairs for private automobile owners if the owner orders and provides all the necessary parts.

Extensive maintenance is required to ensure long term use of this facility (Alaska Department of Transportation and Public Facilities 1982 b). Sand drifts around the building inhibit access. The drifts also contribute to the rotting of the exterior wood siding.

#### 11. Electrical Shop

This concrete building has a metal truss roof, wood sheathing, and is believed to have been built before 1950. The structure once accommodated radio transmission equipment. It has no exit lighting or emergency pathway lighting and needs repairs to the corroded corrugated metal end wall, the corroded metal roofing, the ventilation system, and to ensure fuel oil safety (Alaska Department of Transportation and Public Facilities 1982 b). The shop is currently in the process of being transferred from federal government ownership to the village corporation; meanwhile, it is being used by the city for storage.

#### 12. Paint Shop

The wood frame structure houses a large amount of paint and other flammable materials yet is not designed for such use. Therefore, because of its proximity to other structures, the paint shop poses potential fire danger (Alaska Department of Transportation and Public Facilities 1982 b). The building, owned by NMFS, is scheduled to be demolished.

#### 13. Seal Processing Facilities

The TDX operated facility includes five structures: the blubbering house; brine shed; Kinch House; boxing shed; and the plumbing/carpentry/coal shed.

The blubbering house is in need of exterior wall repairs, a new roof, and paint on the exterior siding. Use of corrosive salts in this building may have contributed to its deteriorated state. The date of construction of the wooden building is not known.

The brine shed, a wood frame structure, is also in need of exterior maintenance, including reproofing and **re-painting**. In addition, structural repairs are needed for the roof. The date of construction of this building is also unknown.

The Kinch House is used to store bulk materials, including large boxes of gravel that are imported from the Seattle area on a routine basis. The stability of the structure's post-and-beam connection system is questionable and provision of a new support system should be considered (Alaska Department of Transportation and Public Facilities 1982 b).

The boxing shed is balloon-framed and has an attic area. Re-painting and reproofing are needed immediately, while structural repairs are also needed for the columns that support the attic. The electrical system is in fair condition (Alaska Department of Transportation and Public Facilities 1982 b).

The plumbing/carpentry/coal shed is **also** in need of several repairs. This wood-frame complex exhibits slight bowing of one wall, while water also has penetrated into the coal shed portion of the structure. It has outlived its original function, although a minimum of effort could upgrade the plumbing/carpentry section. Broken windows, inadequate access, and stairway and fire code violations require attention (Alaska Department of Transportation and Public Facilities 1982 b).

#### 14. Restaurants

The King Eider Restaurant is in the process of being transferred from federal to TDX ownership. The facility is operated under a joint venture relationship between the village corporation and Statewide Services, Inc. on a seasonal basis for tourists. At present, a new roof is being placed on the building to alleviate leakage and drainage problems. Located within the structure but with a separate entrance are public freezer lockers rented by the village corporation to local residents.

Another small restaurant is located in **Ellerman Heights**. It serves three meals a day during the summer and is opened occasionally during other seasons.

#### 15. Alaska Dorm

This wood frame structure, built in about 1958 by the U.S. Department of the Interior, is used to house seasonal seal harvest workers, local residents, contractors, and was historically used to house teachers. At present, S&S Construction (the harbor contractor) has their offices and some management personnel on the second floor of the building. Currently, the dormitory does not allow one-hour protection in the event of fire in the corridor as the fire code requires. The dormitory also lacks a required second entrance area. Additionally, the kitchen and dining areas within individual units are in need of a fire alarm system, exit lighting, and emergency pathway lighting. A major storm during the fall of 1984 caused minor water damage to the facility and a new roof was installed in 1985 as part of an overall renovation plan.

#### 16. Warehouses

The warehouses are used by the community to house heavy equipment. External corrugated metal is deteriorating on some structures, while some foundation work also is needed. Dirt floors should be resurfaced. The largest warehouse (Cascade building) is three stories (each 4,800 square feet) and has provided continual service with little maintenance. However, the building needs replacement of boarded-up windows, roof repairs, and maintenance of exterior wood siding (Alaska Department of Transportation and Public Facilities 1982b, field interviews 1985).

#### 17. Community Gas Station

The community gas station, managed by the IRA Council, sells gasoline to the public and services the city's pumps. This concrete structure has a wood frame roof and vented eaves. Vents for the underground fuel tank are located next to the building under the soffit. Vent pipes should be extended above the roof line due to the possibility of fumes coming back into the structure through the vented eaves (Alaska Department of Transportation and Public Facilities 1982 b). Exterior wood trim is also weather exposed and needs repair.

#### 18. Docks

The existing dock at Village Cove (West Landing) was previously described in Land Use. An additional dock facility located along the breakwater will

be completed by the **fall** of 1986. The new 200 foot dock is being constructed out of a concrete caisson, sunk and filled with rock. The surface will be gravel, and electrical hookup and dock lighting will be available. The new dock will be used for on- and off-loading of cargo by crane. However, water depths may restrict the type of vessels using the dock facility.

#### 19. Generating Plant

Operated by the city, the generating plant consists of two structures: the power house and the Garco Building. The power house is a concrete structure built about 1959 and in need of repairs to the underside of the roof **soffit**. Blowing rain and snow also enter the building through exhaust vents. The Garco Building, constructed in 1974 to provide more space for power generation, is a clear-span, rigid frame structure. Immediate maintenance is needed to stop some corrosion from advancing at the bottom edge of the exterior siding (Alaska Department of Transportation and Public Facilities 1982b).

The city has received a grant from the **Alaska** Power Authority (APA) to obtain and install a new 850KW baseload generator which **will** be located within existing structures. The city has discussed the need for relocating the power **plant** facilities sometime in the future when port industrial development creates demand for additional **land** area and adequate funds are available to relocate the power facility.

Additional work related to the power plant planned for the next twelve months includes extension of a transmission line from the power plant in two directions, to the airport and to the new dock. This work is being done in conjunction with the city's contract with **Flowind** Corporation to develop a wind and diesel co-generation project (Alaska Power Authority 1985a and 1985b, field interviews 1985).

#### 20. Gasoline Storage Facility

Existing gasoline storage tanks are located on Village **Hill**. These tanks are operated and maintained by the city, although ownership has not yet been transferred from the federal government. The city anticipates

transferring the operation and maintenance of these facilities to private enterprise as soon as such an enterprise indicates an interest (field interviews 1985).

#### 21. Equipment Garage

This single-story, wood-frame building has been well maintained. Daylight is visible at the eaves however, and water can penetrate at these locations (Alaska Department of Transportation and Public Facilities 1982 b). Windows are also in need of repair and adequate measures should be taken to ensure safety when storing combustible materials in a shed next to the work area. The facility is currently operated by the city; however, transfer of ownership from the federal government to the village corporation is planned. The city has indicated a willingness to transfer the operation to the private sector upon request (field interviews 1985).

#### 22. Machine Shop

The two-story shop is 25 to 30 years old and made of wood with a concrete foundation. Inadequate ventilation for storage, a split beam, and fire code violations are among the deficiencies of this structure (Humphrey 1983).

#### 23. Hotel Annex

This village corporation facility is in the process of being repaired. TDX anticipates complete conversion of the structure into corporate offices for the accounting and business development departments within the next year. (Limited living accommodations were formerly available on the top floor.)

#### 24. Diesel Fuel Storage Facility

Operated and maintained by the city, the diesel fuel storage facility is in need of repair. In anticipation of the POSS development, additional storage tanks have been brought to the island. The village corporation anticipates taking over the operation and expanding the facility to provide a marine fuel depot within the next several years. Additional work is needed to bring these tanks into compliance with state and federal standards.

25. Water Tanks

The large cement water tanks located on Village Hill are operated and maintained by the city. All tanks are in need of repairs, sandblasting and relining in particular. Also, additional tanks will be needed to support residential and commercial development. Preliminary plans call for the siting of additional tanks in Ellerman Heights (field interviews 1985).

26. NMFS Staff Quarters

The NMFS owns and manages this complex. During winter months, the PISD manages and occupies the facility. There are no known plans for the transfer and/or change in use of this structure.

27. Combine Shop

The city operates and maintains this facility for municipal operations. The single-story, metal structure has about 6,000 square feet of usable space. It is eight to 10 years old although the interior has been completely renovated within recent years. The facility needs an adequate ventilation system, repairs to the corroded metal siding, and correction of fire code violations.

28. Office

The NMFS owns this building. The city has a lease on the facility and jointly uses it with NMFS during summer months when federal resource management personnel are located on the island. The city's public works department is headquartered in this building.

29. Warehouses

This facility is used for the storage of road maintenance equipment. The 3,000 square foot, single story, metal structure is about 10 years old. The warehouse has no insulation and a dirt floor. The exterior siding is corroding badly and only has one exit on the south end. Five windows on the west wall are boarded up (Humphrey 1983).

30. Seal Carcass Processing Facility

This old wood structure is used for storage by the village corporation. Future plans to convert the building for another use are uncertain.

31. Pump House

The pump house will eventually be transferred to the city. However, original surveys for federal 3(e) withdrawals were in error and the site will require a new survey and additional legal documentation prior to being transferred. The city currently operates and maintains the facility.

32. Other Public Facilities Located Outside of the Village Area

Near the airport, approximately 3.6 miles from town, are several federal installations including the U.S. Coast Guard Loran Station and tower; the Weather Service facility (office, tower, and lodging); the radar tracking station at Lake Hill; and U.S. Coast Guard utility service lines (power and water). The POSS facility (described previously in Local Economy) is also located near the airport.

The airport, also located in this area, is in the process of being transferred from the federal government to the State of Alaska (refer to Land Use for additional information about the facility). The airport (licensed by the FAA to NMFS) is currently being operated and maintained by the city. The State of Alaska Department of Transportation and Public Facilities (ADOT/PF) is in the process of preparing an airport master plan for the facility, which (when completed) will call for the improvement of the facility to bring it into compliance with FAA standards for a facility of its classification. Upon completion of the property transfer and master plan, the facility will fall under state management guidelines. In addition, ADOT/PF will request capital improvement funds from both the FAA and the state for facility operation and maintenance.

Recently a moderate instrument landing system was installed as part of the POSS development. Additional improvements, completed or planned, include resurfacing of the runway, conversion of the existing storage building into a modified terminal building, and construction of an additional storage building. A new 200,000 gallon fuel tank was also recently installed at the site for aircraft refueling.



## Utilities

### Water

Water for the City of St. Paul is pumped from two deep wells to three 200,000-gallon capacity tanks on a **hill** above the community. The village uses an average of **60,000** to 80,000 gallons **of** water each day. The capacity of the aquifer has been estimated at one million gallons per day. However, within the next year the city **plans** to more accurately delineate the aquifer by developing test **wells** to measure and monitor the aquifer's capacity.

A system of six and eight inch cast iron mains distributes the water to smaller pipes connected to each structure and to hydrants. The wells have a capacity to produce up to 120,000 gallons per day, utilizing electrically powered pumps producing at a rate of 86 gallons per minute. The pumps have been operated alternately so the aquifer is not drawn down, thereby lessening the chance of saltwater intrusion into the system.

The water treatment plant includes a chlorine and fluoride injection system which is adequate for present uses. Increased demand for water, however, would require installation of larger metering pumps at the treatment plant as well as a larger chlorine solution tank. The water system appears adequate for present residential and commercial needs, but some leaks are suspected and basic repairs are necessary to ensure continued adequacy (Humphrey 1983).

Charges for water, sewer, and garbage collection are made in one billing. Before withdrawal of the **NMFS**, the residential rate for these three services was \$17.56 per month, but rose to \$25.75 per month after the withdrawal.

### Sewage

Several separate sewer systems using septic tanks and drainfields are operating in the village. The system serving the largest number of dwellings is located southeast of the main part of the community and serves the homes and buildings at higher elevations **in the** central part of the town. A separate septic tank/**leachfield** system serves the lower part of the main community, including

the Alaska Dorm area. A small 750 gallon septic tank and **leachfield** serves the power house near West Landing, while an individual system also serves the NMFS headquarters and dormitory area. Before the 1960s, untreated wastewater was allowed to run directly into the ocean.

Two septic **tank/leachfield** systems serve the **Ellerman** Heights subdivision. The original system was installed in the late 1960s, while the Alaska Area Native Health Services installed another system in the 1970s to serve additional homes. Flow can be directed to either or both of the systems. The Coast Guard and Weather Service facilities are served by separate septic **tank/leachfield** systems. The POSS camp is served by a container system requiring regular pumping.

Existing systems on the island are inadequate for meeting current needs and occasionally present serious health hazards. For example, when pumps that lift sewage to tanks are not operating, sewage flows onto the beach. Wastes released from ships passing by the islands also cause pollution problems on St. Paul's shoreline. The city, in conjunction with the PHS, is pursuing funds to construct a combined sewage ocean outfall. Until this is constructed, sewage from new residential systems will be connected to existing drain fields. Therefore, existing fields will require pumping on a weekly basis to meet the increased demand. At present, there is no schedule for the completion of the ocean outfall, an estimated \$1 million project.

### Solid Waste

The city operates solid waste collection and disposal systems for the community. Residential and commercial customers, including the National Weather Service, Coast Guard, and POSS camp, are served twice weekly. Refuse is deposited at an eight acre landfill located about 3.5 miles from town.

The current landfill does not meet state or federal design, operation, or maintenance standards. Therefore, the city is in the process of obtaining necessary permits from the State of Alaska Department of Environmental Conservation (ADEC). The ADEC may require closure of the existing operation, development of a new site, and modification of operating procedures prior to the issuance of appropriate permits (field interviews 1985).

Fifty gallon drums are used for refuse containers by most households. About 137 residential pick-ups are on the route as well as five dumpsters, one at the community store, two at the school and two at the former NMFS headquarters. The garbage is collected in a 10 yard packer-type diesel garbage truck, the only such vehicle on the island (Humphrey 1983). The city also handles solid waste collection for all facilities located near the airport under specific contracts.

Other dumps are located on the island, such as areas where fuel drums have been dumped over the years without proper solid waste management techniques. An old vehicle dump site also is located near Polovina Hill and several unsanctioned dumps have been used by residents, including a carcass dump at Halfway Point and another dump near the flats between Tolstoi Point and Zapadni Point.

Toxic chemicals (PCBs) have been identified in a leaking transformer and the presence of other chemicals and preservatives brought to the island for seal research also is suspected. Methods used for disposal of these wastes are not known (Harmon 1983). The U.S. Army Corps of Engineers is in the process of identifying all hazardous wastes on the island and preparing a design plan for the removal of hazardous wastes that are attributable to defense operations. This plan has not yet been completed (field interviews 1985).

Seal processing generates a large amount of waste. The major by-product is blubber, which is disposed of at the blubber pit just west of Telegraph Hill. Seal carcasses are disposed of in a pit just west of Polovina Hill. These pits are open depressions measuring about 70 by 100 feet and are far enough from town so that there does not seem to be an immediate health or safety problem (Humphrey 1983). The pit area is not covered and the seal processing by-products decompose in the open.

### Electric Power

The existing power system serves 132 residential customers, 30 commercial customers and the fur seal processing operation during the summer. The overall system is well designed for its present loading and appears to operate with few difficulties.

The community formed the St. Paul Municipal Electric Utility, which currently serves all customers in the village area. Within the next year the utility will complete a major electrical system improvement and extension project. This includes the development of a wind farm at Telegraph Hill (by **Flowind** Corporation), the installation of a transmission line from the powerhouse to both **Ellerman** Heights and the airport, and the installation of a transmission line, hookup, lighting, and stations to the new dock. In addition, the city has received a contract from NMFS to repair and upgrade other electrical distribution systems within the existing service area (field interviews 1985).

A new load forecast was prepared by APA to assist the utility in preparing a loan application for utility extension and in negotiating with **Flowind**. The forecast was prepared based on a conservative development scenario, thereby identifying the utility's capability to repay a loan for extension of service.

According to APA, the 1985 consumption is expected to be approximately 2.7 megawatts (**MW**). To supply this electricity, the city will generate 3.5 MW. Forecast consumption without the new transmission line is: 2.9 MW in 1986; 3.07 MW in 1987; and 3.17 MW in 1988. Forecasts with the extension of electrical service to the airport are: 4.98 MW in 1986; 5.15 MW in 1987; and 5.25 MW in 1988 (Alaska Power Authority 1985a and 1985 b).

To meet forecast demands and to increase revenues by extending service to customers located within the airport area, the utility has entered into the following projects:

1. Secured a two percent loan from APA for extension of service to the airport, new homes at **Ellerman**, and the new dock;
2. Secured a grant to obtain and install a new 850 KW generator at the existing power plant; and
3. Entered into a power purchase agreement with **Flowind** Corporation to purchase diesel and wind power according to a rate schedule (\$.19 per KWH for the first level and \$.10 per KWH for additional power purchased above and beyond the initial level). **Flowind** Corporation will be responsible for development of the wind farm, integration of the diesel and wind systems, and operation of both systems. The electrical generation plan will expand the capability of the utility to meet additional demand as well as reduce the cost of electricity to customers (Alaska Power Authority 1985a and 1985b).

St. Paul's power plant is located at the west end of the island in two structures. The original powerhouse building houses six diesel generator units including three 350 KW, 600 RPM Cleveland and three 175 KW, 1,200 RPM Detroit GM/GE units. The powerhouse annex (**Garco Building**) houses three 350 KW, 600 RPM Worthington diesel units. Of these units, only the three 175 KW Detroit Diesels and two of the 350 KW Worthington's are functional. Normal operation requires running a 350 as a **baseload** and the use of the 150s and the other 350 during peak demand periods. Normal load requirements are 500 KW in the evening, 650 KW in the daytime and up to 950 KW during the summer processing season (Humphrey 1983).

The current electrical rate is \$.38 per **KWH**. However, the first 750 KWHS for each customer are subsidized by the state. As a result, residents pay \$.21 per KWH for the first 750 hours. The power is distributed in St. Paul via 480 volt, three phase feeders serving the **older** residential and commercial areas around the powerhouse and 2,400 volt, three phase feeders serving **Ellerman Heights** and the NMFS headquarters site. Street lighting on St. Paul is extensive. Metering is in groups.

#### Fuel Storage

Historically, St. Paul received its petroleum products, including diesel, gasoline, and aviation fuel, once each year (usually in **late July**) through a contract with the Air Force. The Air Force's Cool Barge operation delivers to military and other federal installations in western Alaska. Since the first full year after federal withdrawal, the community has obtained its fuel from private sources, following the same procedure of delivery once at the beginning of the summer. The fuel is stored **mainly** in two tank farms. The diesel farm has a 600,000 gallon capacity while the gasoline tank farm holds approximately 100,000 gallons. These tanks are located above the city and are gravity fed into smaller, underground tanks. Fuels then are pumped out of the buried tanks for delivery to various consumers on the island. When contractors require additional fuel and/or fuel storage, the city has permitted them to utilize city tanks and fuel if provisions are made for refilling the tanks to meet the community's needs.

Aviation fuel is delivered in 55-gallon drums and transported four miles from the barge landing to the airport. A small above-ground tank at the airport is used for storing fuel at that site.

The average age of most of the island's equipment for handling bulk fuel is about 20 years. This age, combined with the wet, salty marine environment and little maintenance over the years, has left the equipment in need of many repairs. All above ground equipment, including tanks, piping, and valves, are rusting. Many instances of code violations were identified prior to NMFS withdrawal, including the absence of a diked and lined facility (Humphrey 1983). No citations were issued to the NMFS for the code violations.

Available fuel types include:

- o Diesel - Arctic No. 1 diesel for vehicles, boilers and heavy machinery; 600,000 gallons per year are available at \$1.45 per gallon.
- o Gasoline - Standard grade, leaded for automobile or recreation vehicle use; 95,000 gallons per year are available at \$1.68 per gallon.
- o Aviation fuel - 100/1 30 aviation fuel for small commuter planes; 5,500 gallon per year are available at \$2.40 per gallon.

Heating fuel is delivered on a bi-weekly basis. The fuel truck has a 1,000 gallon capacity. Servicing the entire community takes three days, or an average of 1.5 days per week. Households use an average of 70 gallons of home heating fuel per month.

Diesel (\$1.45 per gallon) and gasoline (\$1.68 per gallon) are available for private vehicle use at the fuel pump island. The gas station is open three days a week, two hours per day. The larger consumers are billed monthly while others must purchase fuel with cash.

The Coast Guard has its own diesel tank farm. Due to its proximity to the Weather Service station, the Coast Guard tank farm serves as the source of diesel fuel for the other government facilities. The Coast Guard storage capacity is 224,000 gallons, the main tanks holding 32,000 gallons each and being supported by four continuous concrete saddles. These tanks are gravity fed.

The city currently handles **bulk** fuel purchase, storage, and distribution. However, the city anticipates transferring this operation to the village corporation or another private business as soon as possible. The village corporation's long range business plan includes assuming operation of fuel storage as part of their planned **fuel** depot. **No specific plans** are in place for when this transfer would take place (**field interviews 1985**).

With the development of the POSS camp, additional aviation fuel capabilities have been developed, both on site and at the airport. However the long term availability of such increased fuel storage facilities is not known because the current lease for this facility is for only six months.

### Communications

Communications systems on **St. Paul Island** include telephone, radio, television, CB-radio, VHF-radios, and high powered radios capable of transmitting to Kodiak.

#### Telephone

Telephone service is available to **all** residential and commercial customers through **Sitka Telephone**. Additional service is available through **Alascom** (commercial users). The majority of homes on the island have telephones, although many residents prefer to have unlisted numbers to minimize disruptions to family life from business calls.

#### Radio and Television Stations

In July 1985, the **local public** radio station began broadcasting. Programming includes tapes provided from the statewide public radio network and local live programs. The studio is located in the City Hall. The facility was developed under a grant received by the PISD and the manager received formal training prior to assuming the position.

The community receives two television stations, LearnAlaska and the Statewide Rural Television Satellite Project station. The television station is located

in the City Hall and is operated by city personnel. Local productions and announcements are also aired.

### CB and VHF Radios

Prior to 1982 most homes relied on **CB** radios for local communication. However, with the increased availability of both **low** cost telephone service and farther ranging VHF radios, many homes have acquired VHF radios. VHF radios are capable of receiving and broadcasting to the St. Paul Airport and to St. George Island. They are used by the public safety staff, volunteers, airport crew, and fishermen.

### High Power Radios

High power radios are used on federal installations to communicate with the Aleutian Chain and Kodiak. The Coast Guard utilizes its radio in marine search and rescue activities throughout the central Bering Sea.

### Radar Tracking Beacon

In the summer of 1985, placement of a shell over the radar tracking beacon on Lake Hill completed construction of the system. The facility was developed to provide a critical aviation link for both domestic and military operations in the air corridors to the west.

### Public Safety

The City of St. Paul provides partial funding and technical assistance as well as volunteer support for the various public safety entities on the island, such as: the VPSO; a volunteer fire department; Emergency Medical Service; crash and rescue; and marine search and rescue.

### Fire

The St. Paul Fire Department is staffed by a volunteer fire chief and by 18 to 20 volunteer fire fighters. The department has two fire trucks, and a recent



visit by a fire service technical assistance team from the Alaska Department of Education recommended purchase of a third truck. The team also recommended purchase of new personal gear and hoses, and creation of an auxiliary to serve in a support role to the force.

Fire protection generally is adequate for the community's needs although most of the structures on St. Paul do not meet fire code. Water flow capabilities are also in need of improvement. Flow is sufficient for protecting residences but is not sufficient for protection of **large** buildings, particularly a wooden structure such as the city **hall**, the warehouses, or the seal processing facility.

An intensive fire prevention program has been recommended to the community to help prevent severe fire damage. Stepped-up drills, better training of fire fighters, and a community education program also have been recommended in a study of the public safety arm of city services (Norgaard [USA] Inc. 1984c). That study gave the community the option of employing a **public** safety director to oversee **all** emergency entities on **the** island or hiring of a part-time fire chief to oversee fire fighting and emergency medical service duties.

### Police

Two full-time and two part-time **VPSOs** provide police protection to St. Paul residents. A Constable/State Trooper also **lives** on the island. One patrol vehicle is used. **The police** department, **which** is managed by the city, was allocated \$47,050 for **FY** 1983. Public safety officers' salaries accounted for \$29,000 of this money. **A/PIA** provides additional funding and trains the **VPSOs** in fire protection and water safety.

The study of the community's public safety program recommended either the hiring of a full-time public safety director or retention of a part-time police chief. Norgaard (USA) Inc. (1984c) also recommended construction of a jail - holding facility due to the inadequacies of the existing facility.

### Emergency Medical Services

The island's emergency medical services (EMS) operation is staffed by about 11 volunteers. The EMS is housed at the clinic and has an ambulance with medical equipment. EMS operates as a nonprofit corporation sponsored through the state by the physician's assistant at the clinic. It receives funding from A/PIA, the state, and the city.

The public safety study recommended merging the EMS staff with city government to ensure continuity in other emergency programs. This would allow for the training of other volunteers to assist with EMS duties in an emergency.

### Crash and Rescue

This emergency service assists in the event of an air disaster. Funded under a contract with the U.S. Coast Guard, this service is staffed by volunteers. The public safety study recommended using volunteers from all disciplines as teams to respond to such emergencies.

### Search and Rescue

The search and rescue emergency service assists in the event of a marine disaster. Operated by the Central Bering Sea Fishermen's Association, this nonprofit organization is staffed by volunteers. The program has recently been expanded to include a boat with trained and qualified crew through the assistance of the Aleut Community of St. Paul, TDX, PISD, St. Paul Fire Department, Emergency Medical Technicians, PHS, Coast Guard, the city, and fishermen's association.

The public safety report also recommended use of a team approach to respond to marine disasters, calling on volunteers specializing in all disciplines to assist. The report suggested merging this arm of public safety response with the harbor master's office when performing emergency and law enforcement functions in the harbor area.

The city is currently planning a public safety complex to include the following improvements:

Fire: A small community fire station of about 3,200 square feet is needed to house a single large fire truck and a smaller truck, plus hose drying and other necessary equipment areas.

Police: A **small** police station, including space for holding of prisoners and magistrate activities, requires 1,750 square feet.

### Health Care

Medical services on St. Paul are provided at a hospital/clinic facility located within the original townsite. The structure is **built** on two residential scale lots totaling about 10,000 square feet. The facility is adequate for existing needs, **but** harbor development **will** require a larger facility, as well as a full-time physician. Such expansion **would** require building on an adjacent lot directly to the south of the existing structure. (Refer to Public Buildings for additional information).

The PHS clinic is staffed by a physician's assistant, community health aide, and five health assistants who provide a wide range of minor medical care. Surgical and other major medical cases **are** handled in Anchorage.

The PHS provides 100 percent of the clinic's funding or about \$850,000 a year. Staffing is adequate for current caseloads, which are quite high when compared to national averages (Dames & Moore, 1983 b). Twelve patient visits per person per year are reported compared to **2.2** nationwide. Service is provided free to natives **while** non-Natives receive health care at a fee. Federal funding levels have been declining, causing concern among health board members that continued staffing and operation of the clinic may be in jeopardy (field interviews 1985).

### Education

St. Paul's school system served approximately 129 students in 1985, grades kindergarten through 10. Most high school juniors and seniors attend school in Anchorage, Sitka, or the Matanuska-Susitna area. Prior to 1985 the school

district provided courses for 11th grade; however, the school board has changed its policy encouraging students to spend their last two years off the island. The board has determined that for students to adjust to off-island living and other education programs, a minimum of two years should be spent in a new environment (field interviews 1985).

School enrollment for the past 16 years peaked in 1975 with 155 students. Overall enrollment increased by 37 percent between 1969/1970 and the peak year (1975/ 1976) and has **decreased** by 18 percent from the peak enrollment to the current year. The existing school building has space for a maximum of 160 students. Table 5-24 illustrates enrollment trends since 1969/1970.

The student-teacher ratio has increased from 11 to one in 1970, and 10 to one in 1983 to 9.8 to one in 1985. **Total** employment at the school is 27. Only the 13 teachers, a district superintendent, an assistant superintendent (currently vacant), and a principal are not islanders and work on annual contracts with the district. Other school employees include a secretary, bookkeeper, six teacher's aides, and both a full- and part-time janitor.

In addition to regular academic courses, the school district also provides federally subsidized special programs. These programs provide off-island travel and educational opportunities for fifth through ninth grade students. The school district also provides a community education program in conjunction with the Alaska Department of Education.

The school building was constructed in 1973 and remodeled in 1978. A vocational education wing was added in 1980 and provides instructional area for auto mechanics, woodworking, arts and crafts, photography, and other visual arts. There are nine classrooms, an art room, a bilingual education room, two special education rooms, a library (which also houses the community library), a television room, and a multipurpose room/gym in the school.

The school gym is used several times a week during the winter by both school children and young adults for basketball and volleyball games. Rollerskating and exercise classes are also held year-round. In the summer, baseball games are played virtually every night. Basketball, volleyball, and baseball teams

TABLE 5-24: ST. PAUL SCHOOL ENROLLMENT,  
1969/1970- 1985/1986

<u>School Year</u>	Grades <u>K-6</u>	Grades <u>7-10</u>	Grade <u>11</u>	<u>Total Enrollment</u>
1969/1970	94	19	0	113
1970/1971	<b>99</b>	15	0	114
1971/1972	105	<b>13</b>	<b>0</b>	<b>118</b>
1972/1973	<b>110</b>	<b>14</b>	<b>0</b>	124
1973/1974	99	34	<b>0</b>	133
1974/1975	92	48	<b>0</b>	140
1975/1976	96	59	<b>0</b>	<b>155</b>
1976/1977	89	61	<b>0</b>	150
1977/1978	85	57	1	143
1978/1979	80	55	<b>0</b>	135
1979/1980	<b>83</b>	<b>46</b>	<b>0</b>	129
1980/1981	NA	NA	NA	134
1981/1982	NA	NA	NA	144
1982/1983	NA	NA	NA	134
1983/1984	NA	NA	NA	<b>140</b>
1984/1985	71	49	9	129
1985/1986 <sup>(1)</sup>	NA	NA	<b>0</b>	127

NA: Data not available.

1.1985/1986 data reflect first quarter enrollment only.

Sources: Gorsuch and Hull (1983a), St. Paul and St. George Overall Economic Development Plan; Alaska Department of Education, personal communication (1985); field interviews (1985).

compete among themselves on the island and travel off the island for competition.

During the summer of 1985, a recreation intern was hired by the city to run a variety of recreation programs including bingo, a summer youth camp, special adult activities and tournaments, and to provide supervised recreational activities at the school gym. The city sponsors adult bingo a minimum of three evenings each week at the Recreation Center, except during religious holidays.

These games are well attended and some leaders believe they are a constructive way to reduce alcohol consumption (field interviews 1985).

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The University of Alaska operates a Rural Education Program on the island and offers a variety of continuing education and training programs related to carpentry, office practices, computer skills, business management, mechanics, marine engine repair, and fisheries practices and operations. This program has been funded by the State of Alaska, U.S. Economic Development grants, and contributions by local organizations and the St. Paul Trust. Coursework over the 1984/1985 period focused on preparing local residents for participation in construction and onshore development related to OCS activities. Current plans for 1985/ 1986 include coursework to assist individuals in business occupations and continuation of training in construction trades.

● The IRA Council receives Johnson O'Malley (JOM) funds from the BIA to conduct a preschool program. The program runs for three hours each day from October through May. The city donates the use of the Civic Center and provides utilities at no charge. The future of this program is subject to continuation of JOM appropriations from the federal government. However, the city has indicated that if federal funding is cut or eliminated, the city would assume responsibility for continuing the program (field interviews 1985).

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### Summary

As with land ownership, a number of community services are in a state of transition from being operated by NMFS to being run by local organizations such as the city, the state, the village corporation, and the St. Paul IRA. Most of

these transfers have occurred and the community is now largely self-reliant in terms of administering services.

Under government administration for many decades, **St. Paul's** infrastructure was thoroughly developed to meet the needs of the federal agencies, the fur seal operations, and to support the resident population whose welfare was the responsibility of the government. Consequently, the community is well equipped with facilities geared toward these functions (housing, utilities, seal processing, education, and health care, to name a few) although many of the structures are old and in need of renovation. Recent developments include conversion of a seal processing building for fish processing, development of a new breakwater and harbor, and construction of the POSS facility.

### SOCIAL ORGANIZATION

The following description of St. Paul **sociocultural** systems is divided into four major categories: social organization, domestic economic structures, political systems, and **sociocultural** impacts from recent economic changes. The discussion of **social** organization includes a general overview as well as an analysis of kinship patterns and other social systems. This discussion is followed by an analysis of household economic patterns **including income** opportunities, household expenditures, and subsistence dependence. A discussion of the political systems operating in St. Paul follows, and the section concludes with a review of the **sociocultural** impacts of recent economic changes on St. Paul - specifically, termination of the commercial fur seal harvest and the development of OCS support activities. As mentioned in Chapter II and also in Chapter IV, the focus of these **sociocultural** sections is to provide a basic description of the **sociocultural** context within which the socioeconomic systems operate.

There are no detailed records of social life in the **Pribilofs** during and soon after the forced relocation of **Aleuts** to these islands by Russians in the 1820s. For this reason, it is very difficult to speculate about indigenous **sociocultural** patterns. This problem is common throughout the Aleutians because the best early records pertain only to **Unalaska** (Lantis 1970; Petroff -

1884). Although a portion of the first **Pribilof** population came from **Unalaska**, the remainder came mainly from Atka (**Veltre and Veltre 1981**). Previous writers have identified cultural differences separating the **Atkans** and **Unalaskans** (**Lantis 1970**); hence, generalizations about the **Pribilofs** based on **Unalaskan** data may be unwarranted. The following historical description is therefore limited by these circumstances.

The indigenous political, social, and kinship systems began to erode soon after the Russians arrived in the Aleutian Islands. Numerous relocations of villages, families, and portions of families splintered the indigenous sociocultural system soon after contact. The relocation of **Aleuts** to the **Pribilof** Islands occurred in several phases beginning sometime after 1787. These physical relocations of populations decimated by disease and Russian oppression permanently disrupted traditional kinship practices and rendered the traditional political system nearly defunct. The relocations of **Aleuts** to St. Paul began shortly after the St. George settlements were established (soon after 1787). By 1796, five villages had been established on St. Paul which were manned on a seasonal basis by Russian overseers and **Aleut** laborers. These villages were eventually consolidated at **Polovina** on the east coast of the island. The **Polovina** settlement was moved to the present village site in 1825, at which time the **Aleut** population took up permanent residence (**Elliot 1881; Veltre and Veltre 1981**).

The U.S. administration of the **Pribilofs** has been more benign than Russian rule in many respects, but coercive interference by officials continued to affect the remaining traditional elements of the **Aleut** kinship system. The main sources of interference were, first, the prohibition against **Pribilovians** adopting relatives from other communities, and second, regulation of **Pribilovians'** selection of spouses (**Jones 1981**). While these interferences ceased after World War II, the war effort resulted in **Pribilof** Islanders experiencing another forced relocation to Funter Bay in southeast Alaska. The final coercive resettlement" occurred in the 1960s when some St. George families were relocated to St. Paul at the instigation of NMFS administrators. Key families and leaders from St. George were moved in the expectation that their presence in St. Paul would then motivate other St. George families to move also. NMFS tried to resettle families into a single community in the belief



that one Pribilof village would be easier and fiscally more efficient to administer than two. This plan, however, was only partly successful. The effects of these government actions persist in residents' minds. One resident asked: "Do you know what St. Paul is? It is a colonial city."

## Kinship

### Household Structures

In 1985 there were 122 households in St. Paul, ranging in size from one to 14 people with an average household size of 4.46. Field data suggest that most St. Paul households are nuclear or extended in form. A small portion of the households are probably fragments of nuclear or extended families. For this analysis, an extended household consists of spouses and their unmarried children and any other relative or relatives (including married children with or without their spouses and children). A nuclear household is one with spouses and their unmarried children, and a fragment consists of a part of a nuclear or extended group (Bohannan 1963; Murdock 1949).

Ten households were sampled for in-depth, informal household interviews as part of the field investigations in St. Paul. These households were contacted on the suggestion of key informants. Of these 10 households, four contained nuclear families, five contained extended families, and one consisted of an unmarried occupant. Because the relative frequency of each household type in St. Paul is unknown, this small sample cannot be generalized to the entire community. On the other hand, there are no data to suggest that the household structures found in this sample are unique or unrepresentative. Brief family profiles based on the sample data are provided below. (Economic profiles for these households are provided in Household Economic Arrangements.)

PROFILE ONE: This extended family household consists of four people: a married couple, their one child, and the wife's sister. The wife was born in Anchorage and raised mainly in St. Paul; both of her parents were born and raised in St. Paul. The husband's father was born and raised in St. George, whereas his mother was born and raised in St. Paul. He was born in St. George and moved to St. Paul as a teenager.

PROFILE TWO: This nuclear household is comprised of a couple and their four children. The husband and his parents were born and raised in St. George but moved to St. Paul while the husband was still a minor. The wife, her parents, and grandparents were all born and raised in St. Paul.

PROFILE THREE: This nuclear household consists of a couple and their one child. All family members, their parents, and grandparents were born and raised in St. Paul.

PROFILE FOUR: This household consists of one man who was born and raised out of state and takes part in few interactions with family members.

PROFILE FIVE: There are seven persons in this extended household including an elderly couple, their two unmarried children, and their daughter, her husband, and child. The elderly couple and their parents were born and raised in St. George, while their children and son-in-law were born and raised in St. Paul.

PROFILE SIX: This extended household contains eight people including a married couple, their five children, and an adolescent female relative who tends the children while the parents work. The wife and her parents were born and raised out of state. The husband and his parents were born and raised in St. George but moved to St. Paul while the husband was an adolescent.

PROFILE SEVEN: A couple and their two children comprise this nuclear household. The husband and his family were born and raised outside of Alaska whereas the wife, her parents, and grandparents were born and raised in St. Paul.

PROFILE EIGHT: This extended household consists of a married couple, their one child, and the wife's mother. The wife and her mother were born and raised out of state, and the husband, his parents and grandparents were born and raised in St. Paul.

PROFILE NINE. This is a nuclear household consisting of a married couple and their four children. The spouses, their parents, and their grandparents were born and raised in St. Paul.

PROFILE TEN. A couple, their two children, and the husband's mother make up this extended household. The husband, his parents, and his grandparents were born and raised in St. Paul. The wife was born and raised in St. Paul while her parents and grandparents were born and raised in St. George.

Birth and residence information in the St. Paul **sample** indicates that the majority of sample households are composed of long-term St. Paul residents, although several households also have links to St. George. An analysis of the 1985 city census supports this observation. Average age of household head is 46.1 years, while the average length of residence in St. Paul is 41.5 years for household heads. Several sample households (four out of 10) have one family member or more from out-of-state (all of whom are non-Native). This pattern is presumably anomalous and we have no reason to believe that this proportion of spouses from out-of-state is representative for the community as a whole.

In summary, St. Paul households exhibit a variety of structures. Kinship ties, income sources, household economic patterns, and housing availability may all play a role in determining household structures in St. Paul. Analysis of the 1985 city census indicates that income and household size are positively correlated; that is, larger households tend to have larger incomes than smaller households. Economic uncertainties may affect everyone in an extended household so that each person gains security by pooling resources. Conversely, a household may be economically secure and therefore a good sponsor for impoverished relatives who expand a nuclear household to an extended form. These examples of variation in household structure are consistent with what Orbach and Holmes (1982b) called an "eclectic" variety of household types in St. Paul, none of which was clearly dominant.

#### Household Functions

St. Paul household structures are both an adaptation to a particular set of modern circumstances and a result of broad historical trends that **have** affected

indigenous Alaskan cultures. Historically, households composed of large extended families were common in many rural Native communities. Such living arrangements are now rarer due to changes in the number and type of houses available, increased personal mobility, changes in traditional kinship patterns, and other factors. The result is that average household size has declined in St. Paul (Jones 1973, 1980; Orbach and Holmes 1982 b). This demographic fact is clearly understood by St. Paul residents. As one young father said, "I have really noticed [that there are] more small families. It used to be that the elders lived with you and they were in charge. Now they live alone."

Relations among kin as well as visiting friends and house guests observed during fieldwork in St. George are consistent with regional descriptions that portray the endurance of Aleut social values in a changing world (Jones 1976a, 1980; Orbach and Holmes 1982 b). Mutual expectations among household members stress self-sufficiency and industry in the home, but not at the expense of generous assistance to kin and friends in other households. Children are subject to warm and spontaneous displays of affection by men and women of all ages, and are indulged at most opportunities even as they are gradually but forcefully socialized to accept and master adult roles. Later, these children in turn are expected to support and honor the elders. Men and adolescent boys work outside the home and take great pride in their role as providers. Traditionally, Aleut women's primary roles were in the home raising children and processing food. However, women have increasingly entered the work place. Although this is one visible trend, no types of household structures or production strategies have emerged as dominant. The diversity of household structures and production strategies stems from forces such as changes in residence patterns, employment patterns, and costs of living.

#### Kinship Linkages Outside St. Paul

The St. Paul sample is relatively isolated in terms of lineal kin relations to populations outside the Pribilofs. The majority of sampled adults, their parents, and their grandparents were born and raised in the Pribilofs, primarily in St. Paul. According to the 1985 City of St. Paul census of 23 household heads who provided previous residence information, 13 lived first in

St. George, three lived first in Seattle, and one each lived in Anchorage, Atka, Barrow, **Kenai**, Kodiak, Willow, and Boise, Idaho.

Most interactions between relatives (including gift giving, ceremonial participation, visiting, and economic assistance) occur primarily in St. Paul and, to a lesser degree, St. George. Some family interactions occur outside the **Pribilofs**; these links are primarily with relatives in Anchorage but also outside of Alaska. Although the level of interaction in St. Paul far outweighs off-island socialization, it is noteworthy that physical isolation has not closed St. Paul families from recurrent links to **people** far from home. The scope of distant but persistent family ties is illustrated by a recent event in St. Paul. An **Elders** Appreciation Dinner was **held** in St. Paul in 1985 honoring 35 St. Paul elders. Ten of these elders currently reside in Anchorage or Seattle (Aleutian/Pribilof Islands Association, Inc. 1985).

#### Voluntary Organizations

It is useful to analyze voluntary organizations because participation is a matter of personal choice and because such organizations often espouse concrete goals that can be **clearly** described and analyzed. **If** such organizations are active, it is because members wish them to be. Thus, these organizations provide a way to assess **social goals** and priorities.

Several voluntary organizations currently exist in St. Paul, although most are relatively inactive. Voluntary organizations identified in St. Paul include:

- o Russian Orthodox Sisterhood
- o Orthodox Church Council
- o Sports Club
- o Assembly of God Church
- o JOM Board
- o Health Board
- o Library Committee
- o Volunteer Fire Department/Search and Rescue
- o Central Bering Sea Fishermen's Association
- o mutual assistance partnerships
- o trading partnerships

Other voluntary organizations exist which are quite active (e.g., TDX and the city council). However, these organizations are part of the St. Paul political apparatus and are discussed elsewhere (see Political Organization).

The Russian Orthodox Sisterhood activities lapsed during World War II when St. Paul residents were interned at Funter Bay, but the Sisterhood was reactivated soon after the return to the island. The purpose of the organization is to raise funds for the Church when donations are insufficient or when immediate financial needs arise. No other activities, such as charity work or fund raising for other purposes, are or have been carried out by the Sisterhood. The Sisterhood has been most active over the last fifteen years according to local recollections, but over the **last** two or three years the level of activity has been very low and months may pass between membership meetings. In the recent past, membership has fluctuated between approximately five and twenty women, including officers.

The Church Council is more directly involved with church operations and is more active than the Sisterhood. The Church Council is a planning and assistance group which helps to plan events such as marriages, orders supplies for both routine and special activities, and helps with church upkeep and repairs.

The Assembly of God Church has been present in St. Paul for nineteen years. Its level of activity is high, with frequent scheduled church services and informal personal and commercial services, such as cash loans and motorbike and three-wheeler rentals. The formal membership level is low and consists mainly of **non-Aleut** residents and transients. No civic or charity work is carried out by this church, whose leadership states that it teaches by example rather than by formal deeds per se.

An informal sports club exists in St. Paul. Backgammon and card tournaments began in 1985, and these activities may provide the impetus for the creation of a more permanent, formalized organization. The number of participants fluctuates but may reach twelve, and tournaments are held as often as once a week.

The JOM Board was founded in 1976 under the auspices of the JOM program and is affiliated with the **PISD**. It is a parent-teacher involvement group created by the merger of the previous Parent Committee and Native Education Committee. The nine member board also serves as the community advisory school committee. The board is very active during the school year, and provides program advice directly to administrators and in some cases the **PISD** Board.

The health board membership consists of the physician's assistant and community health representative from the St. **Paul** clinic, one representative each from the city and the IRA, and three members at-large. This board, required under the terms of some **A/PIA** grants, solicits community opinions about health care priorities and transmits this information to **A/PIA**. Although the board's primary role has been guidance of health care policy, it will begin addressing specific health care practices during **1986** and assume a larger role in oversight of health care practices and grant procurement.

The library committee was created to oversee operations and solicit public opinion on library facilities and acquisitions. Committee activities have been limited over the past two years to endorsing **PISD** library acquisition plans. The library committee was established in order to meet the guidelines of a state funded program that provides matching funds for library acquisitions.

A volunteer fire department and search and rescue operation exist on St. Paul at an informal level. The locations of emergency gear are publicly known and a general crisis protocol exists, but in the event of an emergency, mobilization and recruitment of assistance are apparently a "first come" affair, coordinated and carried out by community members who first arrive on the scene. Local residents indicated that the two organizations may become more formalized once the harbor is completed and increased harbor traffic stimulates the need for coordinated fire and rescue operations.

The Central Bering Sea Fishermen's Association is a marketing and lobbying organization. Their primary responsibility lies in assisting St. Paul fishermen with getting their fish to market and lobbying for regulatory changes that would favor the local halibut fishery. In this regard, they have worked with the local IRA council and focused lobbying efforts on the **IPHC**.

Mutual assistance and trading partnerships represent the only voluntary associations the study team recorded in St. Paul that are both active and non-formal. These partnerships are similar to those documented in other rural, Native communities that organize two (or less frequently, three or four) persons as comrades who share food and capital, lend technical assistance, hunt and fish together, and provide general mutual support. The mutual assistance partnerships recorded in St. George were all between males. They are notable for their durability and multipurpose character.

Trading partnerships on the other hand are more limited in scope than mutual assistance partnerships. Trading partners are those with whom food is exchanged and are distinct from gift giving or informal reciprocal exchanges. The exchange involves an informal contractual agreement of a value-for-value trade. Normally, St. Paul residents trade marine resources, such as halibut and seal for foods that are expensive or unavailable in the Pribilofs, such as fresh produce, salmon, or caribou. In some cases, the foods traded to St. Paul residents were non-traditional foods such as beef or fresh produce. Although trading partners may often be close friends, the friendship does not alter the contractual quality of the trade. The most frequently recorded locations for trade were Cold Bay, Anchorage, King Cove, and Unalaska.

In summary, most of the formal voluntary organizations in St. Paul were formed under the guidelines of various grant programs and are relatively inactive. It is evident, therefore, that many social priorities are being addressed by other means at this time (mainly through activities of kinship organizations and non-formal institutions). The exceptions are the two non-formal types of voluntary organization (mutual assistance and trading partnerships) that serve household goals by broadening the base of the household economy. It should be further noted that the low levels of activity associated with the church organizations do not imply apathy. These low levels of operation may be entirely sufficient given the goals to which the organizations are devoted. For instance, the St. Paul IRA now contributes money to the Russian Orthodox Church. If these donations meet immediate church needs, Sisterhood activities may be dormant since fund-raising is the chief purpose of the organization.



### Other Social Organizations in St. Paul

Two additional forms of social organization stand out as especially important components of St. Paul **sociocultural** systems: the Russian Orthodox Church and the sealing profession. These organizations are voluntary in practical terms, but social expectations for participation in them are so compelling that the church and the sealing profession are distinct from other St. Paul organizations.

#### The Russian Orthodox Church

The Russian Orthodox Church is a pervasive and important institution in St. Paul. Virtually all St. Paul **Aleut** children are baptized, at which time they become lifetime members of the church. Russian Orthodox leaders pointed out that the membership of the church is **equal** to the number of persons who were baptized, but recognize that the level of active participation in church activities varies among members and is a matter of personal choice. Observers unfamiliar with Russian Orthodoxy are apt to equate membership with attendance in matters of faith and religious affiliation. However, membership in the Russian Orthodox Church represents **an** affiliation that is not severed by lapses in attendance at mass or other forms of participation.

Church leaders recognize that attendance at services is often low, but they are equally aware of the numerous extenuating circumstances that may prevent or decrease attendance. Commercial fishing periods, overtime construction work, subsistence hunting and fishing and many other factors cause time conflicts with church related activities. Church leaders understand these matters through personal experience and are patient and lenient with the attendance patterns of their congregation. Although low attendance levels frustrate church leaders, their primary concern seems to be attendance of youngsters who are in the midst of their religious socialization. In a recent newsletter, the St. Paul Archpriest drew attention to the problem of low attendance at Sunday school services and urged parents to send their children (St. Paul IRA Council 1984 b).

The church is strictly a spiritual institution in St. Paul. It does not engage in charity work, pastoral counseling, or youth activities aside from religious instruction, and limits its activities to those associated with preservation of the Orthodox creed. All rites of passage (i.e., baptisms, marriages, and funerals) and special observances such as Saint's Days and Lent are celebrated under the auspices of the church and public buildings, boats, and fishing gear are blessed in formal rituals (Orbach and Holmes 1982 b). The church is not viewed as a "modern" institution by St. Paul residents. Rather, its strength lies in the fact that it represents a constant in a changing world with central values that have persisted for hundreds of years (see Bensin 1968; Dauenhauer 1978; Jones 1980; Marsh 1954; Orbach and Holmes 1982b; and Smith 1980 for coverage of these and related issues).

Public support for the church in St. Paul is strong but often understated. Nobody avoids talking about the church, and most residents are willing to discuss church matters at length. The Sisterhood may be a relatively inactive organization precisely because the church membership as a whole generously supports church needs. In addition, the St. Paul IRA recently began providing regular cash donations to the church, a fact that underscores both broad support for the church and recognition of its status as a central social and cultural institution in St. Paul. Although tensions between the Russian Orthodox Church and Assembly of God exist, these have never resulted in public controversies that have challenged the dominance of the Russian Orthodox Church. It should be added, however, that a few St. Paul Aleuts attend Assembly of God services.

#### The Sealing Profession

St. Paul Aleuts have been professional seal hunters since relocation to the islands by Russians in the late 1700s. Until 1985, the seal hunt was administered as a commercial operation. Although 1985 was the first year in seven decades that a subsistence-only harvest was held on St. Paul, the harvest retained most aspects of the commercial model, with its union- or guild-like administration and hierarchy. As such, the St. Paul fur seal subsistence harvest is a blend of family level food production and complex bureaucratic administration.

The 1985 harvest marked the transition from a commercial harvest administered by NMFS to a subsistence harvest administered by **local** organizations. TDX assumed administrative and processing responsibilities in the 1985 harvest, although both TDX and the **St. Paul IRA** shared direct labor costs. TDX paid the wages for administrative and processing positions whereas the IRA paid wages for the slaughtering jobs. (In 1986, both the harvest and processing will be administered by the IRA. No major changes in harvest organization are anticipated for 1986 and the **IRA** undoubtedly will continue to investigate new ways to support the financial demands of the harvest.)

The Interim Convention on Conservation of North Pacific Fur Seals expired in 1984. This was the international treaty between four nations (U. S., Japan, Canada, and U. S. S. R.) governing the **Pribilof** Islands commercial fur seal harvest since 1957. Since Congress did not ratify an extension of the treaty allowing St. Paul residents to conduct a commercial harvest, the U.S. Commerce Department issued an emergency order authorizing a **subsistence-only** harvest, as the **Aleuts'** dietary needs are recognized by the treaty.

Well into the 1985 harvest, **TDX** tried to win permission from **NMFS** and members of Congress to **sell seal** products. Congress was debating the terms of the Fur Seal Treaty during the first portion of the harvest, and TDX lobbied key congressional leaders to modify the marketing terms (which prohibit sales of seal products) before ratifying the treaty. As these attempts were unsuccessful, the sealing operations produced no revenues in 1985. IRA representatives in St. George were contacted for advice on how to manage a subsistence harvest because St. George has had a subsistence-only harvest since 1973.

The hierarchy of workers and harvest routine that finally emerged in the 1985 St. Paul subsistence harvest was the traditional commercial model as described fully in **Orbach** and **Holmes (1982b)** and **Veltre and Veltre (1981)**. This hierarchy consists of specialized tasks and named specialists who perform them, fairly rigid distinctions between workers according to their responsibilities, and a well defined chain of command. It is one of the most formal and elaborate organizations on the island.

In 1985, sealers on St. Paul harvested 3,384 animals during 15 days of harvesting between July 17 and August 6. This reduction from the 22,000 animal commercial quota in 1984 caused concern among St. Paul residents. Ironically, however, the IRA and TDX faced serious but temporary difficulties recruiting work crews to carry out the harvest. Due to a surplus of summer jobs on St. Paul and relatively high rates of pay, these organizations found themselves competing with their other operations for laborers. Although all local employers offered leave time for the harvest, recruitment remained problematic and some laborers were recruited from Atka. Atkans have been recruited on numerous occasions in the past as well.

This situation highlights the economic element of the harvest: although technically a subsistence harvest, sealing is perceived as a line of work due primarily to the commercial precedent. As such, it now competes with other jobs and must offer competitive wages despite the strong cultural elements that pervade the harvest. Despite these ironic circumstances, St. Paul residents remain confirmed advocates of the harvest. The harvest was a daily topic of conversation, although relatively few people actually took part in the harvest. Older residents spoke wistfully of harvests in which they had taken part, and younger persons asserted with conviction that they would work on the harvest in the future.

As a central institution in St. Paul, the termination of the NMFS administered commercial fur seal harvest is a significant event affecting various aspects of St. Paul's **sociocultural** and socioeconomic organization. Consequently, the impacts of the 1985 shift to a subsistence-only harvest are discussed more fully at the end of this chapter under Sociocultural Impacts from Recent Economic Changes.

#### Values Associated With Social Organization

The values of generosity, cooperation, endurance, bravery, self-sufficiency, excellence of performance, and humility summarize the ethos of Aleut social organization (Louis Berger and Associates 1983 b). These characteristics are transmitted to children as they mature and become members of other community organizations. This ethos, seen as a code of conduct, is well suited to Aleut

institutions, a harsh environment, and uncertain economic conditions. The household types described above are adaptive because of these values and the uncertain conditions to which families must adapt. The links between individuals and households are sustained both by need and by values of generosity and humility. As one resident explained, "I butcher meat and then get on the radio. Elderly and disabled **always** get meat first, then relatives and friends." Endurance, bravery, and excellence of performance are not only required for a successful adaptation to the environment of the **Pribilof** Islands, **but** also underlie the profound satisfaction **Aleuts** receive from success in this adaptation. Humility, cooperation, and generosity also provide some of the spirit that motivates non-kin organizations, such as the church, and other forms of social organization such as partnerships.

### Summary

St. Paul populations have been relatively isolated from other **Aleut** communities and mainland Alaska for about 120 years due to historic relocations, administrative policy, and physical isolation. Most households were comprised of nuclear or extended families and most **family** members interviewed during fieldwork had lived in St. **Paul** all of their lives as their parents and grandparents before them had. Traditional kinship bonds remain strong in St. Paul as evidenced by household structure and residence patterns, and the predominance of exchange networks. Some exchange networks extend beyond the **Pribilof** Islands and provide a means for St. Paul residents to acquire foods unavailable in St. Paul and reaffirm links with friends and relatives in other communities. These and other forms of **social** relations have numerous economic and non-economic functions that stabilize households, enhance household production strategies, minimize economic inequalities, and reaffirm traditional **Aleut** values.

With the exception of kinship systems, the Russian Orthodox Church and the sealing profession are the most significant cultural institutions in St. Paul. The church embodies traditions that are significant in both spiritual and daily affairs; its pervasive influence is apparent throughout **the** community. The sealing profession merges important cultural and economic needs and is viewed as a birthright of **Aleuts**. Nearly all St. Paul residents identify with both of these institutions.

## DOMESTIC ECONOMIC STRUCTURES

This section is concerned with household economic patterns in St. Paul. The discussion on domestic economies is divided into three major topics: patterns of economic opportunity, patterns of household economy, and subsistence dependence (including subsistence use patterns, changes in subsistence patterns, and interrelationships between cash and subsistence economies). Community and regional economics are discussed only in terms of economic opportunities for households.

### Patterns of Economic Opportunity

As discussed above (see Local Economy) the community of St. Paul is currently undergoing dramatic and far-reaching economic changes. The Aleuts of the Pribilof Islands were for the better part of their history dependent on a government managed fur seal industry and secondary support services also provided by the government as their only source of income. Beginning with the 1966 Fur Seal Act and the implementation of ANCSA in 1971, local residents began to assume more and more control over socioeconomic activities on the island. However, until the 1983 withdrawal of NMFS from the Pribilofs, St. Paul's economy centered around fur sealing operations.

The final years of NMFS management were marked by both budget cuts and a reduction in the number of jobs available in the community. Local employment opportunities became increasingly inadequate and future prospects provided local residents with little optimism. At this time, TDX and the city of St. Paul became committed to developing a local economy on the island that would fill the void left by NMFS withdrawal. Village leaders, who realized that fur seal harvest activities had not been profitable in recent years, were in the difficult position of trying to invest money locally and produce a profit while diversifying the economy. As a consequence of these local efforts, and increased economic activity in the area in general, the St. Paul economy is currently experiencing an economic boom that has had significant effects on local employment opportunities, as well as local residents' attitudes toward these opportunities.

### Income Opportunities

In 1980 there were a total of 244 wage jobs in St. Paul, comprised of 64 full-time and 180 part-time positions. The majority of these jobs (55.3 percent) were with NMFS (17 full-time and 118 part-time). The second largest employers at that time were the St. Paul reindeer antler processing operation and the King Eider restaurant, each with 15 employees (Gorsuch and Hull 1983 b). By 1985 the proportional distributions of jobs by employer had changed substantially, and the number of wage jobs had increased by 42 percent. St. Paul's labor force participation rate of 71 percent is almost equivalent to the state average, and, as stated in Local Economy above, suggests that the community is approaching the maximum number of residents who desire employment.

In the summer of 1985, total summer employment was approximately 346 individuals, but because many of these jobs were seasonal and part-time, this figure actually represents **only** 240 full-time equivalent jobs. In addition, because some individuals hold more than one job, the number of people with paid employment in recent years has been less than the total number of positions. For instance, 96 of the 118 NMFS part-time positions in 1980 represent sealing jobs, many of which were **held** for the brief eight week harvest by individuals with other part-time jobs or people on leave from full-time employment (Gorsuch and Hull 1983 b). Similarly, many of the 1985 summer sealing jobs were held by people with other forms of part-time or full-time employment. This is true of commercial fishermen, as well; the majority of St. Paul skippers and their crews hold other wage jobs when not fishing.

Commercial bottomfisheries operations provided additional income opportunities, both in fishing and in processing. The St. Paul IRA owns and manages the processing operation which provides one permanent full-time position and five part-time seasonal jobs. Thirty-five people are engaged in commercial fishing including these processors, permit holders, and crew on St. Paul. The majority of these people also held other full-time, part-time, or seasonal jobs.

Although St. Paul residents also have access to numerous sources of transfer payments to supplement incomes of impoverished or disabled persons, due to the

current economic boom the use of transfer income is low. Recent monthly records (June 1984 through August 1985) indicate that there were no Old Age Assistance, Aid to the Permanently Disabled, or Aid to the Blind cases over this period. The number of AFDC cases varied between two and three per month with the total dollar value of these payments for the entire community exceeding \$2,000 per month on only three occasions. Finally, there were fewer than seven food stamp cases in St. Paul during all but three months between June 1984 and August 1985. During only two months of the same reporting period did combined AFDC and food stamp cases exceed one (three cases in June 1984 and two cases in April 1985).

The economic strategies of St. Paul households are not defined only by the availability of wage, transfer, or self-employment income. A successful economic strategy must consider personal needs, the equity of access to economic opportunity, and forces of change. Local residents' concerns identified during fieldwork for this study focused on two issues: access and desirability. Some local residents questioned the equity with which the numerous job opportunities were allocated, while others were concerned with satisfying their employment preferences.

Opinions among local residents concerning the accessibility of local job opportunities are mixed. Some residents view local job opportunities as sufficient. One respondent commented, "... people would be hogs if they thought they needed more jobs [here]." Other discussants, while acknowledging that numerous jobs were available, were equally adamant that opportunities are not equal and that able-bodied and qualified **Aleuts** are overlooked for jobs. One resident urged that **non-Aleuts** be expelled from St. Paul for this reason, while another suggested that local hire policies are not enforced and that even within the **Aleut** community there is "a privileged class here that tends to get too much." Some residents expressed pessimism about their abilities to gain access to future opportunities as well. Speaking of local benefits that may be associated with potential oil and gas development, one resident stated, "I know that if the oil companies get rich, we won't get rich. That's the bottom line."



Responses of 10 St. Paul residents indicated that approximately half are not currently employed in their occupation of choice. Current and preferred jobs for these respondents are listed below:

RESPONDENT ONE:

Current work: construction.  
Preferred work: sealing and commercial fishing.

RESPONDENT TWO:

Current work: administration and commercial fishing  
Preferred work: commercial fishing and subsistence.

RESPONDENT THREE:

Current work: **public** safety.  
Preferred work: public safety.

RESPONDENT FOUR:

Current work: civil service technician  
Preferred work: civil service technician.

RESPONDENT FIVE:

Current work: commercial fishing and human services.  
Preferred work: commercial fishing and human services.

RESPONDENT SIX:

Current work: civil service.  
Preferred work: heavy equipment operation.

RESPONDENT SEVEN:

Current work: clerical  
Preferred work: clerical.

RESPONDENT EIGHT:

Current work: administration.  
Preferred work: administration.

RESPONDENT NINE:

Current work: equipment maintenance and sealing.  
Preferred work: subsistence and sealing.

RESPONDENT TEN:

Current work: machinery maintenance  
Preferred work: heavy equipment operation

Of those residents who stated that they were not currently employed in their occupation of choice, two cited other vocational occupations while the other three cited commercial fishing, sealing and/or subsistence as their preferred occupation. Harvesting of renewable resources (whether for commercial or subsistence purposes) was identified as a desired employment activity,

demonstrating the high value local residents place on this traditional activity.

In summary, despite numerous income opportunities on St. Paul, the level of actual employment is varied and unstable (with the exception of some full-time permanent wage positions). Although there is more than one job per household on a pro rata basis, it is apparent that employment opportunities are unequally distributed since some workers fill two or more part-time or seasonal positions. This situation has certain positive benefits, however, such as households generating income from several potentially unstable sources while participating in preferred seasonal and part-time opportunities (e. g., sealing). The unpredictable and unstable quality of income opportunities in St. Paul is perceived by both employees and employers. As one employee stated, "There are enough jobs, and there is no problem with outsiders taking too many. But jobs disappear too fast. They're unstable."

#### Income Conflicts and Income Needs

Many important activities on St. Paul demand commitments of time and energy. Selection of these activities requires an assessment of economic, social, and cultural priorities. Choices between employment opportunities force people to balance their priorities. Although the presence of a variety of job opportunities allows St. Paul households some freedom in their selection of competing activities, this freedom is not without cost. In many cases, people must choose between activities that are valued for the wages and salaries paid and activities that are valued for non-economic reasons. For example, both commercial fishing and sealing have inherent cultural values that may exceed the economic values of participation in these activities. Many residents voluntarily leave other positions that may be financially more lucrative in order to participate in fishing or sealing.

Subsistence hunting, fishing, and gathering provides another example of conflicts between economic opportunities. Although most subsistence activities do not compensate households in dollars, these activities are nonetheless economically productive. Participation in subsistence activities also presents conflicts in timing, allocation of resources, and recruitment of

personnel when compared to other economic activities. Fortunately, in the Pribilof Islands these conflicts are not as severe as they might be; for example, fur seal meat is harvested for subsistence purposes under the auspices of wage activity, and residents take halibut for home use during commercial fishing seasons.

St. Paul employers recognize these needs and acknowledge them with leave policies. These policies are not specifically directed toward subsistence, sealing, or commercial fishing activities, but all island employers are aware of the need and potential reasons for employee absences. The only mitigating factor employers consider is the NMFS retirement provision that has been assumed by local employers who employ ex-NMFS employees (an ex-NMFS employee must work the equivalent of six months per year in order to remain eligible for federal retirement benefits; this is the rule of thumb adopted by NMFS transition staff to distinguish between full-time permanent employees and part-time or nonpermanent employees). In these cases, employers are cautious about granting too much leave or time without pay in order to keep employees within the six month limit.

Not all conflicts are brought about by the availability of multiple income choices. For example, some families are unable to fully participate in subsistence or commercial fishing activities due to the expense of these activities. Other obstacles created by behavior (such as alcohol abuse) and background (such as lack of education) can also block access to economic opportunities. A large percentage of the caseload of the A/PIA alcohol counselor consists of employer referrals. However, interviews with health and public safety staff in St. Paul suggest that the caseload is not increasing and that there are no major behavioral problems that influence job performance or job access.

On the other hand, educational attainment levels are low (see Education and Occupational Skills). In 1980, 43 percent of St. Paul residents age 25 and over had completed only an elementary education, compared with 13.6 percent in the census division as a whole and 0.04 percent in Anchorage. Similarly, only five percent had completed four years of college, compared with 15.4 percent in the census division as a whole and 24 percent in Anchorage (U.S. Department of Commerce, Bureau of Census 1982a).

### Attitudes Toward Development

St. Paul residents' attitudes toward the current economic boom suggest that improved economic conditions have not occurred without social costs. As part of the field investigations, local residents were asked to identify the greatest threats to their ways of life. In St. Paul, eight of 10 respondents identified the possible termination of the fur seal harvest as the greatest threat. A lack of unity among St. Paul political institutions was identified by three respondents, while unfair competition in the new fisheries industry, alcoholism, and environmental damages related to oil development were concerns expressed by two respondents or less.

These and other concerns were echoed by community leaders who stated that prior to the economic boom, community confidence and self esteem were at all-time low levels. Local residents realized that development was important due to their economic conditions, but were concerned that the development would disrupt the community. Once the local residents became resigned to development, however, the attitudes of the community "changed from that of a government town to an entrepreneurial atmosphere" (field interviews 1985). Development activities have also tended to reduce the sense of isolation that was so long a feature of St. Paul life, and this is seen as a cost by some residents. One respected elder noted the increasing numbers of tourists, technicians, and researchers who have visited St. Paul and exclaimed: "Look at it now! Everybody in the world knows about St. Paul." According to local residents, this change from a government town to an entrepreneurial community resulted in more emphasis on the individual and a corresponding reduction in community activities. A St. Paul health services worker noted that most psychological and substance abuse problems in St. Paul do not have psychological roots; rather the problems stem from economic, social, or other sources. Thus, because of the economic opportunity provided, local residents tolerate development while hoping to minimize its negative impacts on social aspects of the community.

## Patterns of Household Economy

Two factors should be considered in an analysis of household economies. First, household economic arrangements (i.e., the levels of household income and expenses) can be analyzed to determine income and expense levels at the household level. Second, household economic goals, levels of satisfaction, and the potential for their continued satisfaction (or dissatisfaction) provide insight into the relation between actual and expected economic well-being and, hence, with the degree of satisfaction with goods and services available in the community. These two factors are addressed below.

### Household Economic Arrangements

An analysis of aggregated income and expenditure data for St. Paul in 1979 indicated that under two-thirds (59.7 percent) of household income was actually spent on standard household expenses, including housing, electricity, fuel oil, refuse disposal, water, gasoline, groceries, and other household items (Gorsuch and Hull 1983 b). After the NMFS withdrawal and assumption of community services by local entities (and the loss of subsidies which artificially deflated costs for all imported commodities), costs changed dramatically. Thus, household data for 1985 will illuminate only 1985 conditions and should not be used to interpret past household income and expenditure data.

Although the ten sample households cannot be used to generalize to St. Paul households as a whole, these brief household profiles do provide a context for interpreting the aggregated data presented in previous discussions (see Income and Expenditures). Percentage estimates presented below may not total 100 percent because informants provided "best guesses" of approximate expenditures and because savings were not tabulated.

PROFILE 1: Approximate yearly household income: \$33,600

Annual Expenses (expressed as a percent of total income):

Housing - 0%	Groceries - 18%
Electricity - 8%	Fuel oil - 20%
Household items - 1%	Vehicle - 0%
Gasoline - 5-6%	Clothing - 3%
Travel - 7-8%	Entertainment - 0%
Subsistence - 2-3%	Commercial fishing - 0%

**PROFILE 2: Approximate yearly household income: \$60,000**

Annual Expenses (expressed as a percent of total income):

Housing - 0%	Groceries - 150/0
Electricity - 0%	Fuel oil - 0%
Household items - 5%	Vehicle - 5%
Gasoline - 5%	Clothing - 5%
Travel - 5%	Entertainment - 5%
Subsistence - 2%	Commercial fishing - 0%

**PROFILE 3: Approximate yearly household income: \$28,000**

Annual Expenses (expressed as a percent of total income):

Housing - 25%	Groceries - 25-10
Electricity - 10%	Fuel oil - 15%
Household items - 2%	Vehicle - 10%
Gasoline - 5%	Clothing - 2%
Travel - 1%	Entertainment - 0%
Subsistence - 5%	Commercial fishing - 0%

**PROFILE 4: Approximate yearly household income: \$35,000**

Annual Expenses (expressed as a percent of total income):

Housing - 15-20	Groceries - 30%
Electricity - 5%	Fuel oil - 15%
Household items - 10%	Vehicle - 0%
Gasoline - 0%	Clothing - 0%
Travel - 0%	Entertainment - 0%
Subsistence - 0%	Commercial fishing - 0%

**PROFILE 5: Approximate yearly household income: \$42,000**

Annual Expenses (expressed as a percent of total income):

Housing - 1-2% (upkeep)	Groceries - 17-20%
Electricity - 5-10%	Fuel oil - 10-15%
Household items - 0-5%	Vehicle - 1-2%
Gasoline - 1-2%	Clothing - 3-5%
Travel - 5-10%	Entertainment - 5%
Subsistence - 5%	Commercial fishing - 0%

**PROFILE 6: Approximate yearly household income: \$57,000**

Annual Expenses (expressed as a percent of total income):

Housing - 10%	Groceries - 15%
Electricity - 3%	Fuel oil - 8%
Household items - 6%	Vehicle - 7%
Gasoline - 3%	Clothing - 4%
Travel - 5%	Entertainment - 5%
Subsistence - 5%	Commercial fishing - 12%

PROFILE 7: Approximate yearly household income: \$29,000

Annual Expenses (expressed as a percent of total income):

Housing - 1% (upkeep)	Groceries - 21%
Electricity - 8%	Fuel oil - 13%
Household items - 1 %	Vehicle - 5%
Gasoline - 5%	Clothing - 2%
Travel - 0%	Entertainment - 0%
Subsistence - 5%	Commercial fishing -4 1%

PROFILE 8: Approximate yearly household income: \$28,800

Annual Expenses (expressed as a percent of total income):

Housing - 1% (upkeep)	Groceries - 20%
Electricity - 20%	Fuel oil - 20%
Household items - 10%	Vehicle - 7%
Gasoline - 5%	Clothing - 3%
Travel - 0%	Entertainment - 1%
Subsistence - 12-1 3%	Commercial fishing - 0%

PROFILE 9: Approximate yearly household income: \$30,000

Annual Expenses (expressed as a percent of total income):

Housing - 1% (upkeep)	Groceries . 25%
Electricity - 10%	Fuel oil - 30%
Household items - 5?40	Vehicle - 0%
Gasoline - 50/0	Clothing - 5%
Travel - 0%	Entertainment - 0%
Subsistence - 10%	Commercial fishing - 0%

PROFILE 10: Approximate yearly household income: \$25,000

Annual Expenses (expressed as a percent of total income):

Housing - 5% (upkeep)	Groceries - 25%
Electricity - 10-15%	Fuel oil - 30-35%
Household items - 50/0	Vehicle - 0%
Gasoline - 0940	Clothing - 1-2%
Travel - 1%	Entertainment - 1%
Subsistence - 5%	Commercial fishing - 0%

In 1979, the average household expenditures (by percentage) for fuel oil and electricity were 3.1 percent and 3.8 percent respectively (Gorsuch and Hull 1983 b). As the 1985 profiles show, the majority of St. Paul households now devote a far greater proportion of their incomes to these utility costs. The highest proportional expense in 1979 was groceries and household items (combined) at 34.5 percent; in 1985, groceries and household items comprised an average of 26.4 percent of annual income among sample households. Subsistence

expenses varied from zero to 13 percent of sampled household expenditures with an average of five percent of total income spent on subsistence harvest activities. Interestingly, the two respondents with commercial fishing expenses incurred the average subsistence expenditures (five percent) even though harvest equipment is likely shared between these two activities in an effort to defray costs.

#### Household Goals and Future Prospects

St. Paul is currently experiencing an unprecedented employment boom. Local residents, however, do not appear to view the boom as “anything more than temporary good fortune. The immediate benefits of increased employment levels are appreciated, but most people correctly perceive this boom as a transitional step toward self-sufficiency. Moreover, the success of this transitional step is widely perceived to be threatened by state and national policies and policy makers who do not understand St. Paul society. Some discussants expressed pessimism about the eventual success of local development strategies based solely on these perceived threats. In spite of the economic benefits to households that the boom provides, some residents believe that the long-term stability of households may be in jeopardy if other social and economic priorities are ignored. One resident stated, “Too often people see the money, not the people. We need unity here more than money. Let money be the second priority.”

Nonetheless, most discussants quickly identified tangible benefits they have received as a result of recent economic development activities, even if this appreciation was occasionally clouded by pessimism. Individual benefits from fisheries development and increased job opportunities in general were mentioned 11 times among the 10 discussants. Most respondents were also enthusiastic about the future prospects of commercial fisheries and the harbor project. Despite fears of frustrated hopes and new dependencies on uncertain resources, St. Paul residents who were interviewed found development strategies based on marine resources very appealing. St. Paul people continue to view the marine environment as their principal economic asset as it has been for two centuries.



## Subsistence Dependence

The following discussion focuses on the role of subsistence hunting and fishing in the lives of St. Paul residents. Three topics are considered: subsistence use patterns, sources of change to subsistence activities, and inter-relationships between cash and subsistence economies.

### Subsistence Use Patterns

Based on household interviews and discussions with knowledgeable key informants, subsistence use patterns have not changed substantially since 1981. Informants stated that **Veltre and Veltre (1981)** is an acceptable data source and **should** be consulted regarding subsistence use patterns on St. Paul. Thus, the following discussion will focus on the 1985 fur seal harvest, analysis of household interview data, and review of subsistence information contained in the 1985 City of St. Paul census.

The St. Paul fur seal harvest in 1985 was 3,384 animals which yielded 93,435 pounds of meat, or approximately 170 pounds per person. **NMFS**, **TDX**, and **IRA** staff worked together to weigh **all** meat and by-products of **the** harvest. An unknown proportion of this meat was sent to St. George. Local residents asserted that this harvest of less than 0.5 pounds of seal meat per capita per day was insufficient to meet the needs of St. Paul households.

Sample households reported that subsistence foods comprised between 10 and 50 percent of dietary protein. Subsistence foods were eaten on a daily basis in some sample households and as little as one day a week in others. The relative amounts of different subsistence resources consumed in St. Paul households varies considerably throughout the year. However, most informants agreed that halibut and seal (respectively) are the most heavily used local foods on an annual basis. Frequently mentioned preferred foods included seal, fowl, and reindeer. Halibut was **only** occasionally mentioned as a preferred subsistence food. Salmon was mentioned most often as the food apt to be traded north to St. Paul in return for local products, although caribou ranked a close second. The most frequent trade sites for St. Paul products are Cold Bay, Anchorage, and King Cove, according to local informants.

The 1985 City of St. Paul census provided information on subsistence including the number of different subsistence foods normally eaten in the household (apart from seal), the number of different foods sent off-island, and the number of different foods received from off-island. Quantities were not addressed in the census. According to the census, the average number of foods (with the exception of seal) eaten in St. Paul households is 3.9, with a range of one to seven. The average number of foods sent off-island is 1.8, with a range of zero to four. The average number of foods received from off-island is 1.2, with a range of zero to five; only 7.3 percent of the respondents did not send food off-island. These figures suggest that exchange networks are well developed and pervasive. A strong positive correlation between the numbers of foods imported and exported supports this suggestion.

#### Induced Changes in Subsistence Patterns

Two sources of change were frequently identified by local residents, and both are forms of external control through regulatory means. First, regulation of the fur seal harvest through a quota system was a source of frustration for many St. Paul residents. The second form of regulatory control was regulation of the commercial halibut harvest, also through a quota system. Although the halibut harvest is primarily a commercial activity, significant quantities of halibut are used for subsistence purposes. St. Paul fishermen perceived regulation of this fishery in terms of its impact on both commercial and subsistence halibut harvests. Changes to subsistence patterns through regulatory control were mentioned by nine of 10 respondents. Another source of change is hunting pressure. One resident explained, "Meat is harder to get. You spend more time now to get the same [amount]. The reason is that more people are doing it."

Increased expenses required to participate in subsistence activities was yet another source of change to subsistence activities identified by discussants. Rising costs included both the increased costs of purchasing and maintaining necessary harvest equipment such as skiffs and outboards, and rising operating expenses such as fuel and ammunition. The influence of increased operating expenses on subsistence activities is discussed further in the following section.

### Interrelationships Between Cash and Subsistence

Numerous interrelationships between cash and subsistence have already been discussed, including the relationship between household structure, economic roles (including wage jobs), and subsistence (see Kinship) and competing economic options within the household and strategies that evolved for dealing with these options, such as employer policies for subsistence leave (see Patterns of Economic Opportunity). Additional topics related to the relationship between the cash and subsistence economies on St. Paul are discussed below.

Subsistence harvest products, especially fur seal meat and halibut, are widely available to many St. Paul residents at little or no cost. For example, several residents noted that they often announce the availability of halibut over the **CB** when approaching town in their boats, at which time interested parties can meet the boat and take what they need. Similarly, the 1985 subsistence fur seal harvest was conducted by the St. Paul IRA and, therefore, households were provided with equal access to seal meat, although most local residents agreed that the fur seal harvest was insufficient to meet local needs. The availability of these foods may equalize subsistence consumption in St. Paul and remove some fiscal constraints on access for these two key resources.

As discussed previously, **the** 1985 subsistence fur seal harvest on St. Paul emerged from a federally subsidized commercial hunt. Despite this change, the hunt retained many characteristics of the commercial harvest. One retained aspect was the formalized crew structures (discussed previously under Other Social Organization in St. Paul). Another aspect retained from the commercial harvest was the practice of paying St. Paul sealers for their work, in part to insure that workers employed in other forms of wage employment would be available to work on the seal harvest. This practice of paying hunters involved in a subsistence harvest is a unique but understandable product of the history of St. Paul's fur seal harvest.

Flexible household structures, combined with a variety of income generating strategies and long-standing extended kin obligations, provide a hedge on an

unstable economy and ensure the ability of most households to finance and staff at least some subsistence practices. Since these structures are not rigidly defined, households are able to easily and rapidly change their compositions in response to changes in economic variables, such as income or employment. Local employers recognize subsistence priorities with a variety of flexible leave arrangements for their employees. The only serious obstacle to flexible job rotation patterns and leave arrangements is the federal stipulation on a six month work duration per year that must be preserved in order to secure federal retirement benefits.

● Subsistence hunters and fishermen on St. Paul have increasingly relied on more capital intensive strategies to offset deficits in time available and skill level. Increased reliance on advanced harvest equipment, such as aluminum boats, powerful outboards, and rifles, has allowed greater flexibility in harvest strategies and has increased the speed, efficiency, and effectiveness of subsistence hunting and fishing efforts. The capital costs of this new equipment are balanced, in some cases, by increased involvement in a wage-based economy.

### Summary

● The domestic economic patterns of St. Paul residents are currently in a state of transition. The relatively stable employment and income opportunities that historically were provided by the NMFS have been replaced by unstable seasonal and temporary employment opportunities related to the current economic boom. Self-employment opportunities in commercial **bottomfishing** are a first step in the community's effort to reestablish stable, long-term economic opportunities, although local fishermen have not yet been able to effectively compete with well-capitalized non-local fleets. Due to the current economic boom, household incomes are sufficient to meet basic household needs despite lower wages in some cases than those previously offered by the NMFS. Subsistence activities remain an essential element of overall domestic strategies in St. Paul. Continued reliance on subsistence foods fulfills cultural and social needs in addition to their role in satisfying household economic needs. Finally, field data suggest that, as in the past, the commercial and subsistence harvesting of renewable resources (particularly marine species) will continue to play an important role in the overall economic strategy of St. Paul households.

## POLITICAL SYSTEMS

This section is concerned with institutions of governance and administration in St. Paul and the leadership and political values that determine their present forms and objectives. The discussion includes descriptions of these institutions, followed by descriptions of the **values** and perceptions that comprise local political ideologies of both residents and their institutional leadership.

### Local Political Organizations

Three institutions wield significant political power and authority on St. Paul. These are: the City of St. Paul municipal government, the St. Paul IRA Council (both are governing bodies), and TDX (the ANCSA village corporation which achieves its political status through control of **local** land and capital).

#### City of St. Paul

St. Paul was incorporated as a second class city in 1971. Prior to incorporation as a city, the IRA council was the local governing body. The role of the municipal government changed considerably as a result of the NMFS withdrawal. Immediately prior to and after the withdrawal, the city assumed a large share of governance, management, training, and development planning responsibilities that were previously the responsibility of NMFS. One responsibility the city assumed as withdrawal became imminent was oversight of the preparation of the Economic Strategies Plan which has served as a blueprint for the economic transition (Dames and Moore 1983 b).

Two goals form the foundation for the Economic Strategies Plan. These are:

- (1) To provide an economic base sufficient to maintain or increase community economic welfare, through:
  - o development of infrastructure **and** public management systems
  - o development of a fisheries industry
  - o expansion of tourism
  - o development of oil and gas industry support services
  - o continuance of the fur seal harvest.
- (2) To maintain cultural integrity by:
  - o fostering land use that will preserve interaction and community identity and attract economic development, and
  - o pursuing social and economic policies that will maintain family cohesiveness (Dames and Moore 1983 b:3-2).

A total of 56 distinct strategies designed to meet these goals were originally identified, nearly all of which required close coordination and collaboration with other St. Paul institutions (Dames and Moore 1983 b). Specialized responsibilities among institutions have emerged that have reduced the need for direct collaboration or joint authority in some strategy areas as the Economic Strategies Plan program has evolved. For example, fur seal industry activities became the chief responsibility of TDX after the NMFS withdrawal and the IRA will be solely responsible for sealing activities in 1986.

Harbor services development has largely been the responsibility of the city. The city was the recipient of harbor development funds and has overseen construction of the harbor facility. The harbor development activities have been conducted in concert with TDX (for local hire negotiations) and with both TDX and the IRA (for initial marketing activities designed to attract capital for harbor improvements). The now defunct **Pribilof** Inter-Organizational Council, a confederation of representatives from all local institutions, also played a part in these harbor development planning activities.

The development of harbor services plans within the larger harbor development plan, hiring of a harbormaster, and purchase of cargo loading equipment have all been carried out by the city. Other responsibilities held by the city include: periodic updating and upgrading of the capital improvements program, implementation of land use plans and management of the planning staff, assessment and provision of utility services, financial and accounting systems development, procurement of housing assistance funds, and personnel training.

Community services assumed by the city include: establishment of a lighterage service, evaluation of recreational needs, implementation of mental health services (with A/PIA), training and equipment purchases for the VPSO program, grant procurement for public safety facility upgrades, and staffing of mental and physical health positions (with PHS). The city has also played a minor role evaluating tourist accommodations and facilities, with TDX assuming lead responsibility (Dames and Moore 1983 b).

The city recognizes that many immediate needs have arisen that require prompt institutional responses, but that cannot be sustained in the long run.

Specifically, the city was faced with addressing local economic distress caused by high costs of living, few jobs, and low wages. The city responded to this problem by hiring more staff than needed in order to provide more jobs in the community. The city has also noted that current wage levels cannot be maintained. Hence, they are initiating a program to educate residents on ways to economize and reduce household costs (Norgaard [USA] Inc. 1984c).

#### St. Paul IRA Council

The **Aleut** Council was chartered in 1951 as a combined **IRA** representing both **Pribilof** Islands. In 1982, the **Aleut** Council divided to form the St. Paul IRA and the St. George IRA. The St. **Paul** IRA's philosophy and objectives include:

- o To strengthen the tribal government charter, policies, organizational structure, administration, and management.
- o To foster economic development of St. Paul by: **Aleut** participation in the private sector economy; **Aleut** entrepreneur development and employment; and TDX private sector investments.
- o To foster and preserve **Aleut** social, cultural, and community services by: lowering the cost of living; providing community services in recreation, cultural, and **social** affairs; providing adequate housing, child care, and education opportunities; and providing for **public** health, safety, and welfare.
- o To develop tribal government land use and economic development **plans**, policies, programs, zoning ordinances and **regulations** that control the rate of economic growth to principally benefit private sector **Aleut** entrepreneurs (St. Paul IRA Council 1985 b:3).

As these objectives indicate, the IRA **potentially** has **responsibility** and/or authority for a wide range of programs and activities in St. Paul. Many of these responsibilities overlap with those of the City of St. Paul and TDX. Although the IRA worked with TDX and the city in most of the negotiations and joint planning activities that accompanied NMFS withdrawal, the IRA's current stance is independent from either of these organizations. The St. Paul IRA's current areas of activity include: administration of ICC funds, a variety of specific programs related to economic development **plans** on the island (especially fisheries development), joint sponsorship of the fur seal harvest, programs aimed at preservation of **Aleut** culture, subsistence, and land, and advocacy related to Native sovereignty issues. These topics are discussed below.

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A major IRA responsibility is administration of the ICC settlement fund. This fund is a reparation for poor federal treatment of **Aleuts** between 1870 and 1946 (Orbach and Holmes 1982b) and consists of ongoing cash disbursements to St. Paul adults born before 1982 and investments of community development funds. The community development funds represent 20 percent of the \$8,500,000 settlement, whereas 80 percent of the settlement is distributed directly to **Aleut** residents. The original personal payments yielded two disbursements per person, one for \$6,000 and the second for \$3,000. However, since these funds earned interest prior to distribution to individuals, initial payments have recently approached \$10,000. The 20 percent community development funds were invested to yield yearly income to underwrite community development activities and guarantee loans.

For example, \$500,000 of earnings from the community development funds were used to guarantee loans to St. Paul fishermen to assist in development of the new commercial bottomfisheries fleet. Development of this fishery is a central IRA program. Eight fishing crafts ranging from 24 feet to 32 feet in length and four smaller skiffs form the nucleus of this growing fleet.

The St. Paul IRA also owns seafood processing facilities (a sliming and icing plant) on the island as a component of its fisheries development program. In addition, the IRA owns a marine shop (chandlery) which provides fuel and gear to local fishermen. Other IRA commercial activities include gasoline sales, sales of groceries, beer, durable goods, clothing, and hardware at the community store, and management of the pub. The IRA supports a variety of other community functions and activities. For example, the IRA recently donated \$50,000 to the local clinic to support services that PHS is withdrawing, and regularly donates money to the Russian Orthodox Church. In addition, the IRA sponsors bingo games.

The IRA is also involved in programs designed to support **Aleut** culture, subsistence, and environmental protection. For example, the IRA paid a percentage of sealers wages in 1985 to cover "subsistence-related" costs (i.e., slaughtering and butchering) and will bear full responsibility for the harvest in 1986. The IRA is also investigating ways to reduce potential environmental damage and social disruption from increased development near or on the island.



One strategy under consideration is the creation of a Tribal Environmental Protection Enforcement officer corps that would patrol the island to prevent trespass on fragile habitats.

Finally, the IRA has embraced a strong Native sovereignty position and has taken an active advocacy role on issues related to governance, ANCSA, Native hire, and relations with state and federal agencies (St. Paul IRA Council 1984 b). Specifically, the IRA advocates a passport system designed to restrict and control visitor access, strict observance of local hire policies and provisions, assumption by the IRA of some municipal services and TDX programs, intensified efforts to collect community opinions prior to formal actions or plans, and continued emphasis on cultural integrity in planning and development efforts.

#### Tanadgusix Village Corporation

TDX was created by ANCSA in 1971 to manage lands and assets of St. Paul Aleut residents. The TDX FY1985-FY1990 Draft Corporate Plan states the following broad philosophical goals:

- o Ensure that the corporation remains self-sustaining.
- o Assist the community in becoming self-sustaining through the development of profitable enterprises which increase job and business opportunities.
- o Control and manage corporate assets to ensure their availability to future generations.
- o Protect village lifestyle and promote cultural preservation by participation in major decisions affecting community and development of compatible enterprises (Tanadgusix Corporation 1985b).

TDX has worked jointly with the City of St. Paul and the St. Paul IRA to plan and implement the Economic Strategies Plan and many current TDX activities stem from these plans. Briefly, TDX operations fall into eight categories:

- o fur seal harvest and processing
- o tourism
- o joint venture construction and catering
- o land leasing
- o facility upgrading (with the City of St. Paul)

- o a portfolio of investments
- o the St. Paul auto shop
- o majority ownership of the Anchorage International Inn

All TDX operations (with the exception of sealing activities) have experienced employment increases over the past five years. Each operation is briefly discussed below.

- Following the NMFS withdrawal from the seal harvest on St. Paul in 1983, TDX assumed responsibility for all harvest and processing operations. The harvest has since declined dramatically, as has TDX'S role in the harvest. During 1985 TDX had hoped to maintain the pelt and by-product processing component of the fur seal harvest. However, efforts by TDX to maintain the processing operation for a final year were unsuccessful and pelts and by-products were not allowed to be marketed under the terms of the sealing treaty. In 1986, the harvest component of the sealing operations will be assumed by the IRA and TDX activity related to the seal harvest will essentially be terminated.

- The tourism program consists of the hotel, a gift shop, and the King Eider restaurant. Tourism activities have grown nominally over the past two years with a five percent annual increase in customers and revenues. TDX has experimented with a variety of strategies to enhance the tourism program, including offering tourist packages during a longer period of the year, without notable success. TDX plans for a 114 person hotel by 1995 hinge, in part, on the success of the tourism program.

- Joint venture construction and catering is a modest element of TDX operations. Construction related to airport improvements in 1984 generated revenues of less than \$300,000, although port development in the future may provide the impetus for more construction work. TDX leadership does not expect such developments to boost TDX construction activities substantially. Port development should increase the scale of the TDX land leasing program, though, and port development activities in general are promising sources of growth for TDX as a whole.

- The facility upgrades carried out with the City of St. Paul are carry -overs of facility upgrade efforts first planned when the Economic Strategies Plan was

taking shape in 1983. The hotel and numerous other facilities have been renovated over the years. In part, these upgrades were required due to neglect while under NMFS management.

Other TDX activities include management of an investment portfolio which includes land at Chernofski and other properties in the Aleutian Islands. The Anchorage International Inn is owned by a TDX subsidiary in which TDX retains 75 percent ownership. The TDX auto shop provides fleet service for TDX vehicles. This shop may be transferred to private ownership in the future in order to foster entrepreneurship. Fleet service would then be provided by contract to the private sector. Other than the 1985 seal harvest, all TDX operations have experienced employment growth over the last five years.

Specific TDX objectives over the next five years stress corporate survival and growth, preservation of Aleut culture, and expanded opportunities for shareholders. Specifically, these objectives are to:

- o Maintain and expand the equity base of the corporation to ensure its survival.
- o Maintain majority Aleut stock ownership of the corporation.
- o Profitably develop land and marine resources with investments in operating businesses having favorable risk reward payoffs.
- o Achieve overall corporate earnings levels which compare favorably with U.S. economy/natural resource sectors.
- o Achieve acceptable overall corporate risk levels through investment diversification.
- o Provide employment/training opportunities for shareholders consistent with other corporate goals.
- o Endeavor to maintain constructive and positive working relationships with local organizations.
- o Strengthen Aleut culture and maintain a lifestyle that is compatible with the community and consistent with other corporate goals.
- o Ensure maximum Aleut participation at all levels of the corporate decision making process (Tanadgusix Corporation 1985b).

Finally, TDX has developed a social agenda that includes required **sociocultural** orientations for visitors to minimize interpersonal conflict, social contracts between local organizations and outside firms that limit traffic and other potentially disruptive influences, ordinances for management and policing of sensitive environments on the island, a drug-sniffing dog at the port to intercept drugs that may be entering the community, investigation of **capital** intensive, shore-based developments that would minimize the need for transient residents in St. Paul, and establishment of an environmental protection authority. TDX believes that these programs combine social objectives of TDX with financial goals and make the corporation both fiscally and socially responsive to the needs of their shareholders.

### Values

Despite a lack of consensus between St. Paul political organizations on certain issues, it is evident that many of the same values motivate each institution. An examination of objectives of St. Paul political institutions reveals that each organization espouses similar ideals and goals. Hence, many of the key differences between St. Paul political organizations are political rather than ideological. The pressing questions are not whether cultural integrity should or should not be maintained, or whether or not local control should be exercised, but rather who shall oversee ongoing developments, how authority and power should be wielded, and what specific forms of coordination should exist among local organizations.

This similarity of ideology is also evident at the level of the individual. St. Paul residents' attitudes regarding optimal leadership qualities are described below:

RESPONDENT ONE: Leaders should display honesty; they shouldn't be nepotistic or show favoritism; they should be open-minded.

RESPONDENT TWO: Leaders **should** support better community spirit, as well as law enforcement and services to fight alcoholism.

RESPONDENT THREE: Leaders should be **very** knowledgeable and dependable, and shouldn't be drinkers.

RESPONDENT FOUR: Leaders should be independent and honest, and shouldn't be part of local cliques.

RESPONDENT FIVE: Leaders should be modest and honest, and shouldn't have hidden motives or hidden agendas.

RESPONDENT SIX: Leaders should be humble and sincere and shouldn't "put on airs;" leaders should respect group decisions and strive for consensus.

RESPONDENT SEVEN: Leaders must be experienced.

RESPONDENT EIGHT: Leaders must have a "critical eye," and have local political power; they should be successful, honest, and determined, able to face opposition.

RESPONDENT NINE: Leaders should support Native rights and self-determination, and should be willing to fight hard for what they believe in; they should be courageous.

RESPONDENT TEN: Leaders should display hard work, experience, and a good education.

These responses indicate that St. Paul residents value leaders that work hard, have experience and education, are honest and fair, and strive for community cooperation and consensus. References to cliques, Native rights, special interests, opposition, hidden agendas, consensus, group decisions, and open-mindedness suggests a recognition of political disputes that are antithetical to the leadership qualities valued by local residents.

### Summary

St. Paul political institutions tend to function independently of one another. Each of the major political organizations (the City of St. Paul, the St. Paul IRA Council, and TDX) hold similar overall development goals and espouse similar social and cultural goals and values. However, these organizations are divided on questions of authority and manner of achieving socioeconomic objectives. These institutions also disagree about the role outside business interests should play in St. Paul's economic development and questions of sovereignty and management of lands on the island. St. Paul residents' attitudes toward the political leadership reflect this lack of consensus. Respondents stressed the need for independent, egalitarian leaders who respect group decisions, foster community spirit, and do not show favoritism or nepotism.

## SOCIOCULTURAL IMPACTS FROM RECENT ECONOMIC CHANGES

Two significant events occurred in St. Paul in 1985. As has been mentioned previously, the NMFS sponsored commercial harvest of fur seals ended and a subsistence-only harvest was undertaken by local residents. The other noteworthy event was the initiation of OCS-related development activities on the island. Both of these events represent significant departures from the traditional economic patterns on the island with potentially long-term and far-reaching consequences for residents. Hence, a brief examination of the **sociocultural** impacts from these events is warranted.

### Changes in the Fur Seal Harvest

Because 1985 represents the termination of the commercial harvest of fur seals in St. Paul and the first year in which both St. Paul and St. George practiced only a subsistence harvest, 1985 is a watershed date in the chronicle of subsistence and regulatory change in the **Pribilof** Islands. Two important legal measures established the political and regulatory backdrop for the **Pribilof** Island fur seal harvests. These two measures are:

- o The Interim Convention on Conservation of North Pacific Fur Seals (1957), and
- o The Fur Seal Act of 1966 (and its enabling regulations: 50 CFR 215).

The Interim Convention on Conservation of North Pacific Fur Seals is an international treaty that establishes binding agreements regarding the harvest of fur seals throughout the North Pacific. Under this treaty, four nations (Us., Japan, Canada, and U. S. S. R.) agreed to cease pelagic harvests of the North Pacific fur seal and share the controlled harvest of these seals at their **Pribilof** Islands breeding grounds. The convention created the North Pacific Fur Seal Commission which administers the convention agreements through its delegated authorities (in the U. S., this authority is the NMFS). NMFS is granted specific authority and duties in U.S. waters under the Fur Seal Act. Fur Seal Commission regulatory responsibilities are summarized in this passage:

...recommend appropriate measures to the Parties [to the convention] on the basis of the findings obtained from the implementation of such coordinated research programs, including measures regarding... a reduction or suspension of the harvest of seals...in case the total number of seals on that island or group of islands falls below the level of maximum sustainable productivity; provided, however, that due consideration be given to the subsistence needs of Indians, Ainus, Aleuts, or Eskimos who live on the island..." (North Pacific Fur Seal Commission 1957).

The Convention therefore empowered the commission. Through the commission and the Fur Seal Act, the Convention also empowered NMFS to monitor the fur seal herds and determine when and if levels of maximum sustainable yield have been reached. Although these legal measures acknowledge and authorize subsistence uses of fur seals, the health of the herds takes first priority under the terms of the Convention and the Act. The formal authority for U.S. officials to establish quotas or terminate the harvests at their discretion is established under these measures. For instance, the moratorium initiated in 1973 on commercial harvests at St. George was established under this authority.

The Convention is, however, an interim measure that requires periodic review and ratification. As described previously under The Sealing Profession, the Convention expired in 1984, providing for no harvest at all in 1985. As a matter of procedure, Congress reviewed the Convention to consider extending it, but an extension was not ratified, due in part to the intense lobbying effort mounted by animal protectionist groups who opposed the harvest of fur seals. The U.S. Department of Commerce did, however, issue an emergency order permitting St. Paul residents to conduct a strictly subsistence harvest; under this order, any commercial use of the seal products was prohibited. Island representatives lobbied for permission to sell the seal products but were unsuccessful in this attempt; the marketing of seal products remains illegal. Thus, 1985 became the first year of non-commercial seal harvesting on St. Paul since 1916.

The regulations authorizing the 1985 subsistence harvest required close monitoring of the harvest by NMFS. Terms of the harvest required that substantial utilization be made of the carcasses to minimize waste of edible meat. In addition to NMFS monitors, animal protectionist groups took it upon themselves to also observe the harvest procedures. Predetermining a quota for

the harvest proved difficult as records documenting past subsistence consumption of seal meat do not exist. Past commercial harvests took up to 25,000 seals which yielded more than adequate quantities of meat for local residents' subsistence needs (Zimmerman and **Letcher n.d.**). Moreover, past consumption levels (if known) may reflect lower utilization of each seal since requirements for substantial utilization were not then in effect. NMFS staff explained to the study team that neither NMFS nor the **Aleuts** knew in advance how many animals would be harvested; rather, the duration of the harvest would be determined by a number of variables observed while the harvest was in progress. Seals could be harvested only so long as the need continued and the seals were being treated in a humane and efficient fashion. Reduced needs, inhumane treatment, or waste, singly or together, would be sufficient grounds to terminate the harvest. Although the flexibility of the quota was considered a strength by some residents, others criticized the system for giving discretionary power to the NMFS representatives, potentially permitting prejudice and misunderstanding to affect the quota.

NMFS staff monitored the harvest and closed it down when, by their best estimate, local needs had been satisfied. Ultimately, a 15-day harvest from July 8 through August 6, 1985, took 3,384 seals. Deducting meat sent to other communities and meat lost to spoilage, the harvest amounted to approximately 0.2 kilograms per person per day for a year (Zimmerman and **Letcher n.d.**).

As discussed previously under **The Sealing Profession**, the domestic aspects of the harvest in terms of the organization of labor, the hierarchy of workers, and actual harvest patterns on the killing fields, have changed little over the last several years. Even the recent transition from a commercial harvest to the 1985 subsistence harvest administered by local organizations appeared to have little impact upon the social organization of the harvest. The sealing hierarchy and the actual work routine are extremely resilient and have not undergone detectable change in recent years aside from the obvious change in volume of work. As this document is an update, extensive detail on these previously well documented patterns is inappropriate. Some detail is provided in the earlier discussion referenced above; additional detail can be found in **Orbach and Holmes (1982b)** and **Veltre and Veltre (1981)**.



In contrast to the social organization of the harvest, the institutional and fiscal contexts of the harvest on St. Paul have changed dramatically over the last decade. NMFS has withdrawn as the administrative body for the seal harvest, now that commercial harvests have been phased out. In its place, TDX and the St. Paul IRA, both local Aleut organizations, assumed joint control of the subsistence-only harvest on the island, although NMFS still exercises considerable regulatory control over the harvest. Thus, whereas the harvest was previously instigated and operated by the government (indeed, for decades the government controlled much of the island life for the purpose of upholding the U.S. responsibilities of the Fur Seal Treaty), the government presence and control is virtually nonexistent in 1985. This represents a significant change in the institutional structure of St. Paul, as has been described previously.

Due to the termination of both fur seal product sales and a federal subsidy to underwrite the harvest, the fiscal impacts have also been considerable. Since no outlet for fur seal products exists, no sources of revenue are presently available to offset the direct and indirect costs of harvest administration. In practical terms, this means that TDX and the IRA must pay all costs of the harvest (primarily wages) without even a partial return. The effect of such a drain on institutional resources cannot be evaluated yet, but this is obviously a major change that will have numerous ramifications. Harvest cost is now probably the most vulnerable element of the harvest and may pose the gravest threat to the continuity of the Pribilof fur seal harvest.

One change in the community that may be unrelated to the different administration and purpose of the seal harvest was observed in employment policies during the seal harvest. Traditionally, local employers have been flexible about letting employees take time from their jobs to work on the seal harvest as it was recognized as a traditional, culturally valued activity. In 1985, the City of St. Paul did not have a blanket policy allowing employees to participate in the harvest; rather, the administration gave supervisors the responsibility to decide whether their employees should be granted leave for the harvest. Some supervisors denied permission which caused hardship on the employees who were not permitted to work the seal harvest, according to one individual.

In addition, individuals did not come to the killing fields to obtain meat to the extent that they were encouraged to do. (Consequently, TDX bore more of the burden of processing the meat, which was placed in community freezers for anyone to use.) Two reasons were offered by one observer for this lack of participation. The first reason was the problem discussed above: employees had difficulty obtaining time off from their jobs even for this purpose. Second, the presence of animal protectionists and the negative publicity they generated made residents hesitant about going to the killing fields.

Controversy over the harvest has made many **Aleuts** defensive about their life-styles and cultural values, but this defensiveness seems to reinforce rather than inhibit those values. Though difficult to gauge changes to values, it is possible that the high level of frustration over the harvest, combined with bad publicity and controversy, may reinforce insular, "us versus them" sentiments. In one individual's estimation, the controversy over the seal harvest instigated by animal protectionists caused more of a disruption to St. Paul than any other change on the island, including the OCS activities.

The volume of the St. Paul harvest was lower during 1985 than 1984, but the extent of the reduction is unknown because reliable documentation indicating how much of the 1984 (or earlier) harvest was used for subsistence purposes is not available for comparison to the 1985 harvest. Most of the seal meat harvested in 1985 was preserved for use throughout the winter and spring; shortfalls in the supply will not become evident until then. One dietary impact from the different purpose of the 1985 harvest is that the subsistence harvest has reduced access to the preferred seal meats. When 22,000 to 25,000 seals were harvested for their pelts only, island residents could help themselves to virtually unlimited quantities of seal flippers and organ meats (the preferred portions of the carcass, which was merely a by-product from the harvest). Under the 1985 subsistence harvest, meat (rather than pelts) was the goal of the harvest; maximum utilization of the carcass was required. Consequently, **Aleuts** obtained proportionally less of the preferred meats in the 1985 harvest than they were historically accustomed to obtaining in the commercial harvests. Other than this impact, the effects of the reduced harvest are unknown. Many informants voiced concerns about the size of the harvest and expressed their desire for both a **larger** harvest and more

understanding in public circles about the necessity of the harvest for both cultural and nutritional reasons. It is clear, therefore, that despite any uncertainty about the dietary impacts of harvest reductions, there have been perceived impacts that reveal themselves in current attitudes.

#### Impacts from OCS Development

A support base for Navarin Basin oil exploration was originally to be developed by Cook Inlet Region, Inc. and two other Native corporations on St. Matthew Island in the Bering Sea. However, environmental opposition to such development precluded use of that island as an oil industry support base. In this manner, the Pribilof Islands became the alternative staging area for Navarin Basin activities. A subsidiary of the Aleut Corporation, Pribilof Offshore Support Services (POSS), signed a contract with Exxon USA in 1985 to construct a support base on St. Paul. As has been discussed previously, the project employed several St. Paul residents.

The joint venture petroleum exploration support facility at St. Paul is, by design, a low profile operation. Located on TDX land near the airport, the facility is relatively isolated from normal community activity. Non-local oil company employees were flown into the airport from Anchorage and bussed to the POSS camp, adjacent to the airport. From there, they were flown by helicopter the same day to the exploration rig to relieve the previous shift of workers. These employee transfers occurred almost daily as the three oil companies operated five exploratory rigs in 1985. However, only a small number of oil company personnel were at the POSS facility for more than a few hours at a time. TDX stipulated several conditions in leasing the land for POSS. For example, no transient workers are permitted to own vehicles, nor are they permitted to bring firearms or alcohol to the island. They are not allowed to tour the island, and unauthorized visits by island residents to the camp are not permitted. The operation ran smoothly and in a manner that permitted little contact between the oil company employees and the community of St. Paul in accordance with St. Paul leaders' wishes. Consequently, the social impacts of this development were minimal.

On one occasion, however, the facility assumed a more obvious presence which illustrated residents' perceptions and attitudes about the impacts of petroleum exploration on St. Paul. During the field study, the support staff sponsored an open house for all interested community residents on a Sunday after church services. Announcements prior to the affair offered refreshments and a tour of the facility in an informal atmosphere. According to informant recollections, between 50 and 100 persons (including children) attended the open house. For the week following the open house, however, attendance at the event became a point of debate among many residents. Some attendees were accused of "selling out" by those who purposely avoided the open house. Some residents made a point of canvassing friends and co-workers in an effort to determine who was willing to accept the invitation. According to some residents, willingness to accept the invitation connoted an acceptance of petroleum development activities in the vicinity of St. Paul. One resident said, "That's the way they start. They sweet-talk you and offer you cookies. Now let's see what happens when it is a question of jobs or damage to the island." In contrast, another resident provided a counterpoint to this pessimistic stance, saying "Oh, they [critics of the open house] see spooks under every bed."

This vignette of the open house throws light on the depth of feeling and extent of fear that is apparently generated by the prospect of OCS exploration, development, and production. It is important to note, however, that there is no consensus of attitude; the attitudes that were expressed merely reflect the polarities and factions that exist naturally within the community.

### Summary

The community of St. Paul is currently undergoing considerable change as a result of OCS development and changes in the fur seal harvest. It appears that the community's participation in the POSS development (as an Aleut Corporation venture on land leased from TDX) has thus far proven to be a successful accommodation of industry, due in large part to the community's participation in determining the manner in which the development should take place (i.e., physically removed from the village, yet with opportunities for local employment). In contrast, the lack of local control over the seal harvest and the impacts thereof (e. g., unsuccessful attempts to gain marketing privileges

for seal products and the negative impact of the animal protectionists) may threaten the continued viability of the harvest as a traditional community activity.

## VI. ST. GEORGE

### DEMOGRAPHY

#### Population Growth

Between 1960 and 1985 the population of St. George declined from 249 to 179, a decrease of 28 percent. During the 1960s, the National Marine Fisheries Service (NMFS) pressured residents of St. George to consolidate fur seal activities on the island of St. Paul. Largely as a result of this pressure to consolidate, the population of St. George declined 37 percent between 1960 and 1970, falling from 249 to 163. Total population of St. George declined further to 158 persons by 1980. Population in-migration in response to employment opportunities and natural increases resulted in the population growing to 179 persons by September 1985.

Population migration for St. George has historically been related to the status of the fur seal industry. As sealing declined in the 1970s, the population of St. George also declined. However, since 1983, net migration has been positive. This may be the result of several factors: 1) return of St. George residents who left the island in the 1970s; 2) the hope of new jobs relating to harbor construction; and 3) the possibility of a world class bottomfishing industry at St. George.

Table 6-1 presents data on net migration for the 1980 to 1985 period, although population estimates are not available for 1981 and 1982. St. George's population grew by 21 people between 1980 and 1985. Natural increases accounted for 15 persons and in-migration accounted for six. Documented in-migration of nine persons has been recorded during the last two years. The previous three years had a negative net migration of three persons.

Net natural increase (births minus deaths) accounted for 15 of the 21 person increase between 1981 and 1985 in St. George (Table 6-2). This increase is partially the result of recruitment of a significant number of females (Figure 6-1 and Table 6-3) into prime child bearing years with a subsequent increase in births.

TABLE 6-1: ST. GEORGE POPULATION AND NET MIGRATION

<u>Year</u>	<u>Total Population</u>	<u>Net Natural Population Change</u>	<u>Net Migration</u>
1980	158	-2	NA
1981	NA	+4	NA
1982	NA	+5	NA
1983	162	+4	+6
1984	172	+4	+3
1985	179		

NA: Not available.

Source: Alaska Department of Health and Social Services (n.d.), Vital Statistics. Alaska Department of Health and Social Services, personal communication (1985).

TABLE 6-2: ST. GEORGE BIRTHS AND DEATHS

<u>Year</u>	<u>Births</u>	<u>Deaths</u>	<u>Net Natural Change</u>
1970	2	1	+1
1971	4	0	+4
1972	4	2	+2
1973	3	0	+3
1974	3	2	+1
1975	4	0	+4
1976	1	3	-2
1977	3	1	+2
1978	3	1	+2
1979	0	2	-2
1980	6	8	-2
1981-	4	0	+4
1982	5	0	+5
1983	7	3	+4
1984	<u>5</u>	<u>1</u>	<u>+4</u>
Total	54	24	+30

Source: Alaska Department of Health and Social Services, personal communication (1985).



FIGURE 6-1 : ST. GEORGE POPULATION COMPOSITION , 1980

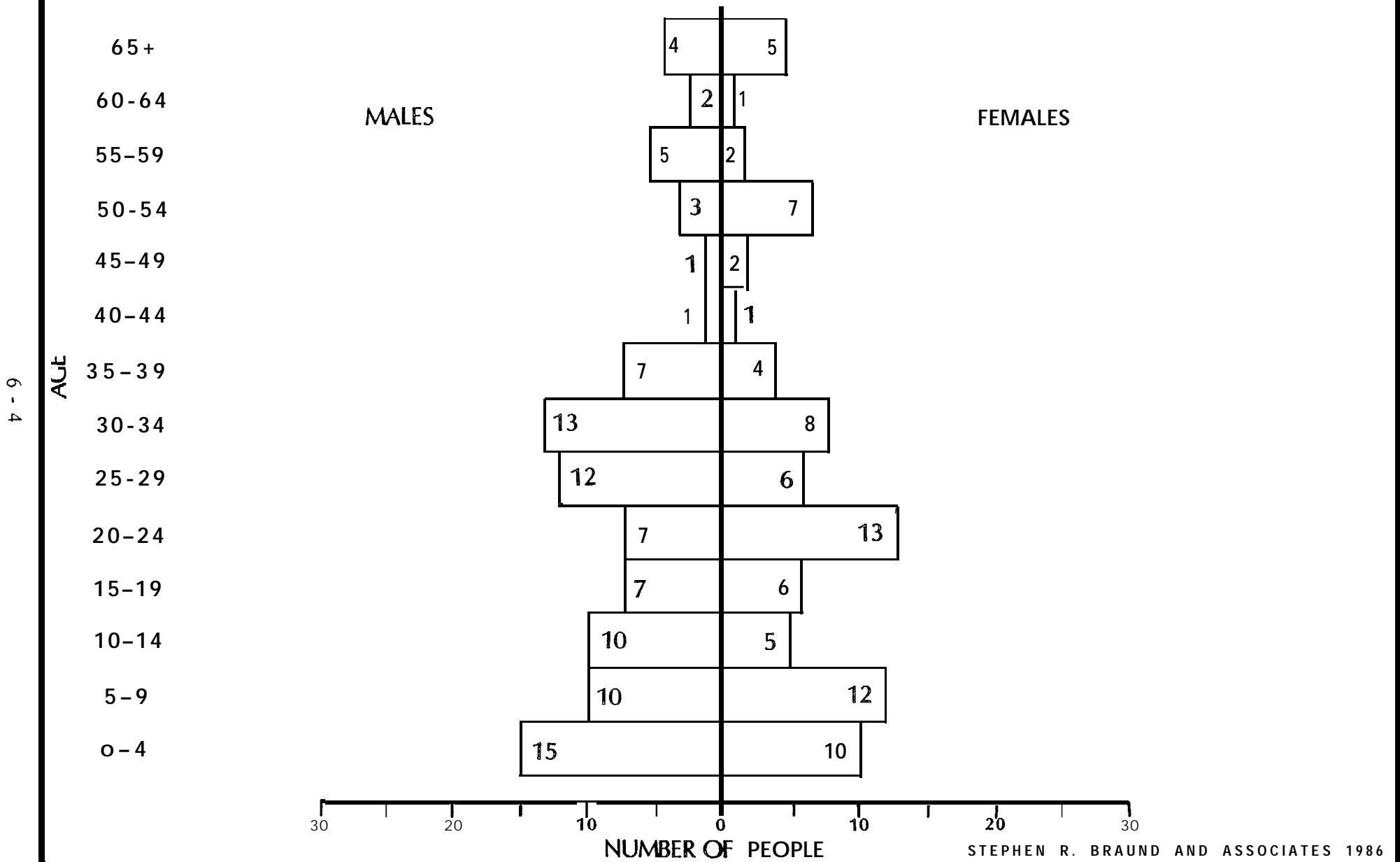


TABLE 6-3: ST. GEORGE POPULATION COMPOSITION “

<u>Age</u>	1970			1980			1985		
	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0-4	9	8	17	6	10	16	15	10	25
5-9	11	11	22	11	6	17	10	12	22
10-14	20	15	35	11	5	16	10	5	15
15-19	11	10	21	12	11	23	7	6	13
20-24	4	4	8	6	6	12	7	13	20
25-29	1	1	2	7	4	11	12	6	18
30-34	1	3	4	7	6	13	13	8	21
35-39	5	7	12	1	0	1	7	4	11
40-44	6	4	10	2	2	4	1	1	2
45-49	5	1	6	3	6	9	1	2	3
50-54	2	2	4	5	4	9	3	7	10
55-59	2	2	4	4	1	5	5	2	7
60-64	2	3	5	3	2	5	2	1	3
65+	<u>6</u>	<u>0</u>	<u>6</u>	<u>6</u>	<u>6</u>	<u>12</u>	<u>4</u>	<u>5</u>	<u>9</u>
Total	85	71	156	84	69	153	97	82	179

Sources: St. George, City of (1985), 1985 City Census. Gorsuch & Hull (1983 b), St. Paul and St. George Overall Economic Development Plan, (Appendices).

### Population Characteristics

St. George's population is predominantly **Aleut**, with people of other ethnic origins constituting less than five percent of the total population. Population composition by age and sex for St. George residents in 1970, 1980, and 1985 is shown in Table 6-3. Young residents under the age of 14 declined from 47 percent to about 32 percent of total population between 1970 to 1980, but rose slightly to around **35** percent by September 1985. The population of St. George has been historically dominated by males in the prime working ages of 20 to 54. This pattern is similar to many communities in rural Alaska that have experienced an out-migration of females and in-migration of males, generally in response to the opportunities and life-styles of rural life. Census figures for 1970, 1980, and 1985 indicated that males constituted 54 to 55 percent of St. George total population in each year.

### Education and Occupational Skills

The 1980 census (U.S. Department of Commerce, Bureau of the Census 1982a) and the 1983 St. Paul and St. George Overall Economic Development Plan (OEDP) (Gorsuch and Hull 1983a) show educational **levels** of St. George residents for the years 1980 and 1982 (Table 6-4). According to the census, 34 people over the age of 25 completed elementary school, four persons completed one to three years of high school, 24 finished four years of high school and six had completed four years of college. The OEDP, however, indicates there were no college graduates in St. George in 1983. This discrepancy may have arisen because the census was conducted in April when school teachers were on the island whereas the 1983 study may have been conducted in summer during school vacation.

For 198 years, the major industry in St. George has been the harvest of fur seals. Consequently, major occupational skills found in St. George are directly related to this harvest. Table 6-5 indicates the number of persons who have technical training in the listed occupation **I skills** based on a 1982 survey (Smythe 1983). Residents of St. George have had training in a number of occupations appropriate for OCS activities including diesel mechanics, auto mechanics, electrical engineering, heavy equipment operation, clerical skills,

TABLE 6-4: ST. GEORGE EDUCATIONAL ATTAINMENT

<u>Highest Grade Level Completed</u>	<u>Number of People<sup>1</sup></u>	
	<u>1980</u>	<u>1982</u>
Elementary	34	NA
High School (1-3 years)	4	NA
High School (4 years or GED)	24	30
College (1-3 years)	0	7
College (4 years)	6(2)	0

NA: Not available.

1. Age 25 and older in 1980, age 26 and older 1982.
2. Possibly includes non-resident St, George teachers.

Source: U.S. Department of Commerce, Bureau of Census (n.d.d), 1980 Census of Population and Housing, Summary Tape File 3A. Smythe (1983), Pribilof Islands Skills Rehabilitation Plan.

TABLE 6-5: ST. GEORGE OCCUPATIONAL SKILLS

<u>Courses Taken in Technical School</u>	<u>Number of People</u>
Auto Mechanics	5
Avionics	1
Business	1
Carpentry	2
Clerical	3
Counseling	1
Dental Assistant	1
Diesel Mechanics	7
Dietitian	1
Electrical Engineering	3
Electronics	2
Electronic Engine	1
Emergency Medical Technician	1
Cooking, Food Management	1
Flying	1
Heavy Equipment Operator	3
Home Decoration	1
Morse Code Intercept	1
Museum	2
Plumbing	2
Refrigeration, Heating	2
Security	1

Source: Smythe (1983), Pribilof Islands Skills Rehabilitation Plan.

avionics, electronics, cooking, emergency medical treatment, flying, plumbing, refrigeration, heating, and security. Thirty-six residents have training in some of these occupations.

Fifteen people are presently enrolled in community training programs to improve maintenance skills. Other occupational skills developed through practical experience are also available in St. George although not listed above.

### LOCAL ECONOMY

A general history, descriptive of both St. George and St. Paul, was presented in Chapter V (beginning of Local Economy). The reader is referred to that discussion for a general background that applies to both communities. Presently, St. George is undergoing a series of changes to its economic structure. The forces which are causing these changes are fundamentally similar to those discussed previously for St. Paul: 1) NMFS withdrawal from the Pribilofs; 2) transfer of responsibility for public services to community organizations; and 3) an unprecedented construction boom.

The community is attempting a transition from an economy dominated and controlled by the federal government to a diversified economic structure supported by tourism, fisheries, marine, and OCS activities. The pace of this transitional effort is intense and is the focus of current activity as residents seek to establish a permanent economic base before transitional funds provided by federal and state governments are exhausted.

### Employment

Approximately 110 persons over the age of 16 reside on St. George. This age classification is used by the U.S. Department of Labor to represent those persons most likely to be members of the labor force. With approximately 63 persons employed, the community labor force participation rate is 57 percent. This represents a maximum labor force participation rate for the community given existing conditions since St. George is experiencing full employment and some jobs are not being filled. Remaining members of the population over 16

are likely to be women with families, retired persons, and men who prefer subsistence or seasonal employment. St. George's labor force participation rate of 57 percent is lower than the 73 percent statewide participation rate for 1983, but significantly higher than the 36 percent rate for the southwest region of Alaska (Alaska Department of Labor n.d.a).

### Employment in Fish Harvesting

Commercial fishing activities by the residents of St. George began in 1982. The intent of fishery development was to create employment opportunities for residents and to add a viable component to the local economy. The focus of the fishery to date has been on halibut. Fishing for halibut provides a relatively easy progression into commercial fishing for the local people, since many residents have experience in jigging for halibut for subsistence use. The capital cost to enter the fishery is modest, which makes the fishery relatively easy to enter when compared with other fisheries, such as **groundfish** trawling. The gear required to fish halibut in a small scale fishery is limited to a power skiff and longline gear.

The halibut harvest by St. George fishermen during the first year of operation in 1982 was 20,000 pounds. The harvest level increased to 70,000 pounds in 1983, 114,000 pounds in 1984, and 128,000 pounds in 1985 (field interviews 1985).

Approximately 30 residents are fishermen in St. George, including crew members. Their fishing fleet is composed of 13 or 14 skiffs. The St. George Tanaq Corporation (the local village corporation) underwrote the loans to allow fishermen to purchase ten 20 foot aluminum skiffs which make up the largest component of the fleet. The fishermen who purchased these boats make payments for the loans by providing Tanaq with 50 percent of their halibut catch. In addition to the aluminum skiffs purchased through the Tanaq Corporation, three or four 18 foot skiffs are owned by fishermen who use them in the halibut fishery. All boats fish **longline** gear or jig by hand.

The physical size of the skiffs in the halibut fleet limits fishing activities. When the weather is unfavorable or conditions are uncertain, the

fishermen cannot go out. The limited range of the skiffs also restricts fishing activities to inshore areas and limits the amount of catch that can be safely transported to port. Fishermen in St. George have expressed a desire for larger boats in order to overcome these limitations and catch a larger share of the halibut quota.

Halibut fishing takes place in the International Pacific Halibut Commission (IPHC) regulatory Area 4C, the same area fished by St. Paul fishermen (Figure 5-2). The boundaries for this area are described in Chapter V under Employment in Fish Harvesting. Given the size of the current fishing fleet, the halibut fishing activities of St. George fishermen are restricted to Area 4C.

The 1985 halibut season in Area 4C opened on June 1 and was scheduled for fishing on a one-day-on, one-day-off basis until August 6 and every day thereafter until October 31 (or until the quota of 600,000 pounds was taken). The quota was reached by July 18, closing the fishery and resulting in 24 days of potential fishing. Allowing for a few days for unfavorable weather, fishing time for the St. George fleet was probably reduced to around 20 days. This was a shorter season than in 1984. In that year, the season opened on May 21 and ended on July 25, resulting in 33 days of fishing. The length of time that the season is open depends to a large extent on the number of large vessels that come into the area to fish for halibut. The fishing capacity of these vessels is much larger than the St. George or St. Paul skiff fleet, and their entry into the halibut fishery in Area 4C results in the quota being reached in a short time.

The one-day-on, one-day-off fishing mode discourages larger vessels from fishing in regulatory Area 4C to some extent. An additional regulatory requirement for hold inspection and vessel clearance acts as a further disincentive for larger vessels to fish in Area 4C. Despite the regulatory impediments to "outside" fishing vessels, they still take more than 50 percent of the total quota from Area 4C. This situation is not likely to change in the future since the IPHC does not have the regulatory authority to allocate the quota to a specific group, such as the fishermen at St. George or St. Paul.



### Employment in Fish Processing

St. George Tanaq Corporation owns and operates St. George Tanaq Fisheries. This fish processing facility was built in 1983 at a cost of approximately \$12 million. It is located at the waterfront, within the main part of the community. It has a loading/packing room, another room with six cutting tables, two wash drains/sinks and a heading saw, and a freezer room. The freezer measures 12'x36'x56' and has a storage capacity of 500,000 pounds. The plant also has an ice-making machine, providing the flexibility of icing or freezing the catch. The capacity of the fish processing facility is much greater than the amount of halibut that has been harvested by the St. George fishing fleet to date.

All of the processing workers are local residents. The plant began operations in 1982 with 23 workers but this labor force proved to be larger than was necessary to process the catch. In 1985, the labor force consisted of two permanent, seasonal employees and 10 to 12 seasonal processing workers. The processing plant operates the same days the fleet is fishing, taking from two to eight hours to process the catch. They also spend about four days before and after each season mobilizing and demobilizing the processing plant.

### Other Industry

The U.S. Government controlled employment in St. George until the early 1960s. Even in 1982, almost 10 years after imposition of a moratorium on commercial fur seal harvests on St. George Island, 60 percent of resident employment was attributed to this industry (Table 6-6). These employees helped manage the fur seals on St. George in addition to participating in the St. Paul fur seal harvest. Employment with NMFS ended in 1983 when NMFS withdrew from the Pribilofs. Since the 1972 moratorium, local, state, and federal organizations have tried to create new jobs for St. George residents. Table 6-6 shows employment conditions in St. George for 1980, 1982, and 1985. The 1985 data reflect employment conditions on St. George Island and do not show five St. George residents currently employed at the helicopter support base on St. Paul. When these five residents are added, total employment is 63 persons or 45.75 full-time equivalents.

TABLE 6-6: ST. GEORGE EMPLOYMENT

	1980		1982		1985		F.T.E. Employment
	<u>Total Employed</u>	<u>Percent of Employment</u>	<u>Total Employed</u>	<u>Percent of Employment</u>	<u>Total Employed</u>	<u>Percent of Employment</u>	
National Marine Fisheries Service	41	75.9	41	60.0	0	0	0
U.S. Post Office	NA	NA	NA	NA	1	1.7	.25
City of St. George	0	0	0	0	13	22.4	13.00
IRA Council	2	3.7	3	4.4	2	3.4	2.00
Canteen	1	1.9	1	1.5	1	1.7	0.50
Tanaq Corporation	1	1.9	2	2.9	17	29.3	5.00
Store	2	3.7	2	2.9	3	5.2	3.00
Company House	1	1.9	NA	NA	NA	NA	NA
Aleutian/Pribilof Islands Association	NA	NA	2	2.9	NA	NA	NA
Clinic	1	1.9	1	1.5	1	1.7	0.50
Public Safety	NA	NA	NA	NA	1	1.7	1.00
School	3	5.5	5	7.4	5	8.6	4.25
St. George International	0	0	0	0	1	1.7	0.50
Si Ika Telephone	2	3.7	NA	NA	1	1.7	0.25
Peninsula Airways	0	0	2	2.9	1	1.7	0.50
Northern Air Cargo	0	0	0	0	1	1.7	0.50
Brice Construction	0	0	0	0	8	13.8	8.00
Calista	0	0	0	0	0	0	0
Fairweather Inc.	0	0	0	0	2	3.4	1.50
Sumner Youth Program	0	0	0	13.3	NA	NA	NA
<b>Total</b>	<b>54</b>	<b>100</b>	<b>68</b>	<b>100</b>	<b>58</b>	<b>100</b>	<b>40.75</b>

Sources: St. George City Manager's Office, personal communication (1985). Dames & Moore (1983 c), Economic Development Strategies Plan, St. George Island. Gorsuch & Hull (1983a), The St. Paul and St. George Overall Economic Development Plan.

Termination of the **NMFS** role as the major employer on the island has been at least partially offset by an increase in jobs provided by Tanaq Corporation and establishment of a city government. Construction activity associated with the breakwater and harbor has also created short-term jobs for local residents.

Although employment by several entities has increased, the total number of people employed has declined from 68 persons in 1982 to 58 in 1985. The decrease has not had an adverse effect on the community for several reasons. First, during the summer of **1985**, there was full employment on St. George Island with 63 persons employed (including those employed at St. Paul). Information gathered during the project field investigations indicated some jobs were not filled because no one in the community wanted to take them.

Second, the **seasonality** and short duration of the seal harvest and related activities resulted in less than full-time employment for many of the 41 people employed by **NMFS** in 1982. The number of full-time equivalent (**FTE**) positions for 1982 is unknown, but it is possible that 1982 FTE employment was equal to or slightly greater than 1985 levels.

The **Pribilof Islands Skills Rehabilitation Plan (Smythe 1983)** projected new employment after harbor development (**Table 6-7**). Since economic development on St. George has moved at a slower pace than anticipated in 1983, the original estimates have been modified to more **closely** match actual progress. Thus, where positions dependent on harbor development were projected for 1985, a new beginning date of at least 1987 **should** be assumed. Projections in this plan anticipate employment for 12 persons (**11.5 FTE**) after harbor construction, excluding fish harvesting and processing. The incremental change in non-fishing related employment will be minor based on these projections. Four of the projected positions represent a change in status of hotel staff from part-time to full-time, and the remaining eight positions in harbor and marine store operations and mechanic and welding shop should offset the eight construction jobs that will end when harbor construction is complete.

TABLE 6-7: ST. GEORGE FUTURE EMPLOYMENT POSITIONS <sup>1</sup>

<u>Position</u>	<u>Number</u>
Marine Store Manager	1
Marine Store Clerk	2
Fuel & Water Distribution	1
Inventory Clerk	1
Hotel Operator	1
Housekeeper	1
Cook	1
Cook's Helper	1
Waitress	1
Harbor Master	1
Welding & Mechanic Shop	4
Gift Shop Operator	,(2)
TOTAL	16

1. Indicates positions in addition to those available in 1982.
2. A six month position.

Source: Smythe (1983), Pribilof Islands Skills Rehabilitation Plan.

## Income and Expenditures

This section discusses income and expenditures for major community organizations. The private sector is presented first, then the public sector and finally, individual households. The information is taken from Table A-3.

Table A-3 in Appendix A identifies major sources of community income and describes transactions between organizations and households to demonstrate possible community responses to external stimuli, such as OCS activities. Major sectors within St. George's economy were identified and, where possible, the flow of funds between various sectors was traced. These results provide relative, not absolute, measures of economic linkages for St. George. Some information sources were not available and, consequently, complete closure was not possible. Totals may not balance; all expenditures were not identified.

Data on income sources and transfers were obtained for fiscal year (FY) 1984 when possible; details on financial transactions for programs and operating budgets are shown for that year. Certain fund sources, especially state capital grants, are displayed for several time periods to indicate the magnitude of capital funds provided and subsequent dependence on these sources. Analysis of transactions is limited to FY 1984, where possible.

### Private Sector

#### Fishing Sector

The catch level among the fishermen of St. George varies considerably. The highest catch by a St. George fisherman in 1985 was 22,000 pounds of the 128,000 pound catch for the entire fleet. In 1985, fishermen were paid \$.70 per pound, for a gross fishing revenue of \$89,600 dollars for the season. The top fishermen in the fleet were able to meet their expenses and probably had a profit left over. The majority of the fleet did not do as well, however, and may be in a break even or loss position.

St. George fishermen pay back their fishing loans by giving half of their catch to the Tanaq Corporation. This gives the fishermen the incentive to

keep fishing and helps the top skippers pay off their boats quickly. Fishermen purchase their fishing supplies mainly from Seattle or Anchorage, but about 30 to 40 percent of fishery related purchases are made at the Indian Reorganization Act (IRA) Council's canteen, which stocks engine parts, gangions, lines, and other fishing gear (field interviews 1985). Non-local fishermen do not make any expenditures on St. George.

In 1984, **Tanaq** Corporation showed total revenues from sea products of \$155,000 (field interviews 1985). In 1985, total fisheries revenue amounted to \$171,000. These figures represent gross revenues from sales of processed halibut shipped off the island.

#### Processing Sector

Processing workers in the St. George **Tanaq** Fisheries, Ltd. plant are all local residents. They are paid \$6.50 per hour for first year employees and \$8.00 per hour for second year employees. The plant manager is paid \$12.00 per hour (Field interviews 1985). Total wages paid to processing workers in 1984 were \$81,000. In 1985, total wages paid to processing workers were \$32,000.

In 1984, St. George **Tanaq** showed expenses for sea products of \$418,155 (field interviews 1985) of which \$171,000 was depreciation expense (**Tanaq** Corporation comments to MMS 1986). Comparison with the 1984 revenue of \$155,000 shows a negative cash flow of \$92,155 for the 1984 fishing operation. In 1985, total fishing operations cost \$360,000 of which \$75,000 was depreciation expense. Comparing those costs to \$171,000 in revenues shows a negative cash flow of \$114,000 for the 1985 fishing operation. It is apparent from these figures that fisheries operations have not yet yielded a positive cash flow to the local economy (**Tanaq** Corporation comments to MMS 1986).

#### Other Industry

The following sections discuss major private sector components of St. George's economy.

**Tanaq Corporation.** The **Tanaq** Corporation is the village corporation established in St. George under the terms of the Alaska Native Claims

Settlement Act (ANCSA). The firm's asset base includes land leases, local hotel operations, tour packages, and the fisheries program discussed above. Tanaq also operates the local store and has just completed an expansion from 800 to 2,000 square feet of floor space. The corporation maintains 10 buildings in St. George and also operates an office in the community, one in Anchorage, and an on-island construction company.

The St. George Hotel, owned and operated by **Tanaq**, was refurbished and improved from a "company house" (a residence for seasonal U.S. government workers on the island) to provide 10 rooms with capacity for 18 guests. The tour package costs \$1,100 for airfare (round trip from Anchorage), accommodations, and a tour of the island; about 60 tourists visited the community in 1985. An estimated \$33,000 was paid to Reeve Aleutian Airlines and Peninsula Airways for air fares and the remaining \$33,000 went to **Tanaq**. Approximately \$13,000 of the \$33,000 **Tanaq** share went to island residents in wages. The **hotel** estimates a third of their guests were tourists; the rest of the guests were government officials, businessmen, medical people, engineers, and construction workers.

**Sales** estimates for **Tanaq's** store are based on average household expenditures of \$722 per month per household (field interviews 1985). The total market for household expenditures is projected at \$468,000 per year; **Tanaq** is estimated to get 80 percent of this market or about \$375,000. Costs of sales are estimated at \$200,000 annually, deriving a gross profit margin of \$175,000. This amount covers wages (\$86,000), overhead, selling and administrative expenses, debt service, and net profit, if any.

**Tanaq** had a total economic impact of \$1,500,000 with about 550,000 remaining in the community.

**IRA Council.** The St. George IRA Council operates the local canteen, selling beer twice a week and providing fishing supplies and other sundries. Estimated 1985 sales are \$250,000. Bingo is another enterprise run by the IRA; estimated annual gross sales are \$25,000. The IRA Council also received \$833,000 from the Indian **Claims** Commission (ICC) settlement as well as several training grants from the federal Administration for Native Americans (\$130,000) and the University of Alaska (\$75,000).

The local IRA Council is the third largest private component in St. George. (The IRA Council could also be considered a public sector component but is presented as a private component because of its sales activities.) Its total expenditures were less than **Brice** and **Calista** (see below), but its total in-community impact was significant. About \$174,000 of a total \$417,000 (42 percent) was spent within St. George.

**Aleut Corporation.** The **Aleut Corporation** is headquartered in Anchorage with operations in St. Paul and **Unalaska**. It provided cash dividends of \$115 to its shareholders in 1985; an estimated 80 percent of the original 225 shareholders still live in St. George. These dividends provide about \$20,000 to the local economy. Five St. George residents are employed on the **Pribilof Offshore Support Service (POSS)** base on St. Paul.

**Other Businesses.** Two other principal businesses in St. George are the **Calista Corporation**, presently building HUD homes in the community, and **Brice Construction**, currently building the harbor and breakwater at Zapadni Bay. These firms will cease operations on the island when their construction projects are completed.

**Calista** is paying carpenters about \$17.45 per hour and laborers \$16.83 per hour for work on home construction. Project field notes indicate eight carpenters and eight laborers were needed for the work. City records indicate no local workers were employed on this project as of September 1985.

**Calista** contracted for housing construction administered by Aleutian/**Pribilof Islands Association's (A/PIA) Aleutian Housing Authority (AHA)**. The firm spent an estimated \$45,000 in St. George for local goods and services; about \$900,000 was spent outside the local area. No residents were working for **Calista** on the housing project as of September, 1985, possibly due to higher wages offered by **Brice** on its harbor project.

Field notes indicate **Brice Construction** is paying drivers \$21.76 per hour and machine operators \$24.00 per hour with a 40 hour work week plus overtime. **Brice Construction** spent an estimated \$55,000 in the local



economy during FY 1984 for fuel and rock, and an additional \$250,000 for local labor.

**Brice** Corporation ranked second in terms of **total** impact on **the** community. **Brice** employed about eight local residents as part of its construction crew. Wages and salaries for these people, including supplies and services purchased locally, totaled about \$305,000. An additional \$1,225,000 was spent for materials and services outside St. George, including engineering design and building materials.

Table 6-8 summarizes private sector expenditure data from Table A-3. It also provides estimates of geographic distribution for these expenditures.

### Public Sector

This section lists project findings for public sector components in St. George. Federal, state, and city fund sources are provided **along** with A/PIA and school district information. The following sections do not present every public sector grant or other appropriation. They are summarized by major headings for clarity.

#### Federal

Appropriations. St. George received **three** major federal appropriations during the period FY 1981 to FY 1986. The first was paid under the ICC settlement dated July, 1979. This settlement provided \$8.5 million to the **Aleut** communities of St. George and St. **Paul**; terms and conditions of the settlement provided 80 percent in direct payments to individual community members and 20 percent to St. George and St. Paul for community development. The community settlement provided \$833,000 to St. George's IRA council.

The second major appropriation was **\$1** million from the NMFS. These funds were given to St. George for renovation and repair of former NMFS buildings and facilities deeded to the community when NMFS left in October, 1983.

TABLE 6-8: ST. GEORGE PRIVATE SECTOR SUMMARY

<u>Organization</u>	<u>Total Funds</u>	<u>Contribution to Local Economy</u>	<u>Expenditures Outside of Community</u>
Tanaq Corporation	\$1,500,000	\$550,000	\$950,000
Aleut Corporation	26,000	20,000	6,000
IRA Council	417,000	174,000	243,000
Calista Corporation	945,000	45,000	900,000
Brice Corporation	<u>1,530,000</u>	<u>305,000</u>	<u>1,225,000</u>
Total	\$4,418,000	\$1,094,000	\$3,324,000

Source: Patrick Burden & Associates, estimates (1985).

The third major appropriation came under provisions of the Fur Seal Act of 1983. A total of \$20 million was provided under a trust agreement; St. George was **allocated** \$8 million and St. Paul received \$12 million. Funds are administered by two court approved trustees, one for each community. These funds are available to any group or individual with a plan to benefit community members. Funds may be loaned, granted, or used for security.

A smaller appropriation of \$130,000 was received by the IRA Council from the Administration for Native Americans (ANA).

Social Service Programs. St. George residents received about \$193,300 in social service funds for FY 1984. About 12 percent of this money went directly to households; the remainder either left the community (e.g., Medicare money to the Alaska Native Health Service hospital in Anchorage) or went to other agencies as "pass through" money.

Revenue Sharing. St. George received about \$5,000 in revenue sharing money from the federal government as its first payment after incorporation in September, 1983. This **amount** reflects one payment and a prorated share of regional payments, according to state Office of Management and Budget (OMB) documents. Future annual amounts will be in the \$20,000 to \$30,000 range.

Housing. St. George received about \$1.1 million of federal housing funds in 1984 and 1985, primarily through federal HUD programs. These funds were directed toward construction of new homes, according to federal records and field notes. Most of this money was administered by AHA.

#### State

Capital Funds. St. George received significant capital funds from the State of Alaska for FY 1981 through FY 1985. Grants were directed at infrastructure development, especially harbor and breakwater construction. About \$11.2 million was provided to St. George.

Social Services. State social service money for St. George is estimated at \$41,000 in FY 1984. About 80 percent went directly to St. George households; the remainder went to A/PIA for its Village Public Safety

Officer (VPSO) program. Social service funding includes Comprehensive Programs for the Aging, Low Income Home Energy Assistance, Aid to Families with Dependent Children (AFDC), Food Stamps, and a number of other programs. Social service assistance is provided by a state social worker at Unalaska and A/PIA's social worker in Anchorage.

Education. St. George and St. Paul are sole members of the Pribilof Island School District (PISD). State support totaled \$1.67 million during FY 1984. This money was allocated through district headquarters in St. Paul.

Revenue Sharing. Three state programs provided a total of \$22,222 in revenue sharing for St. George. The municipal assistance programs contributed \$21,151, and the raw fish tax provided \$1,071.

Other. Other state funds include economic development funds of \$2,000, planning funds from ADCRA of \$72,500, and historical preservation funds of \$20,000. The planning funds were an apportioned amount from the total grant of \$145,000; most of this money left the community for consultant fees and expenses. Additional planning studies were contracted by the Alaska Department of Transportation and Public Facilities (ADOT/PF), but much of this \$380,000 was spent outside the community.

#### Local

Aleutian/Pribilof Island Association. A/PIA, headquartered in Anchorage, provides services to 11 communities including St. George. A/PIA's AHA administered construction of 14 federally funded homes in 1984 and 1985 at an estimated project cost of \$1.1 million. A/PIA assesses a fee of 20 percent for programs that it administers.

A/PIA's St. George budget is estimated at \$66,500. This amount includes medical and VPSO salaries as well as allocated amounts of social service money and employment and training monies. All of this money is directed to St. George households, either as wages and salaries or direct contributions.

School District. St. George is part of the **PISD**, headquartered in St. Paul. The city had 30 of the district's 159 students; the estimated allocation was \$159,000. Of this amount, \$128,000 (81 percent) went to St. George households (primarily nonresident teachers), an **estimated \$20,000** (13 percent) was spent locally for supplies and utilities, and the rest (\$11,000) left the community for other services and supplies.

City of St. George. The city was incorporated in September, 1983, as a second class city. St. George budget documents filed with Alaska Department of Community and Regional Affairs (**ADCRA**) projected FY 1985 expenditures at \$1,467,400 with \$951,593 authorized for general fund expenditures and \$515,807 set for "enterprise" funds (e.g., electricity and fuel sales). Projected allocations include \$441,000 for wages and salaries to St. George households (30 percent) and \$961,000 (65 percent) for out of community expenditures. The remainder is for **local** utilities (\$15,300) and locally purchased supplies and services (\$50,100).

St. George does not have a sales or property tax. It does sell fuel and electricity and provides water, sewer, and garbage service. During the transition to local control, the city has assumed some non-traditional services (e.g., fuel sales). Final responsibility for these non-traditional services will likely be decided in the next few years.

No projected revenues were listed on the **FY 1985** budget documents filed with ADCRA. Conversations with the St. George city manager suggest much of the city's revenue will come from the trust fund established for St. George by the federal government.

In reviewing the public sector economic data, it is apparent that state and federal capital grants, including **ICC** and Fur Seal Act monies, have been the major source of direct capital to St. George. State programs, including school funds, have provided about \$463,722 or roughly 65 percent of St. George's program monies.

Table 6-9 summarizes known public sector program expenditures for FY 1984. The table suggests the roles of local organizations on a relative basis only.

TABLE 6-9: ST. GEORGE PUBLIC SECTOR SUMMARY

<u>Organization</u>	<u>Program Funds</u>	<u>Contribution to Local Economy</u>	<u>Expenditures Outside of Community</u>
Federal	\$5,130,000	\$3,095,000	\$2,035,000
State	11,340,000	140,000	11,200,000
A/PIA	1,116,500	74,000	1,042,500
School	324,000	256,000	68,000
St. George	<u>1,467,400</u>	<u>506,400</u>	<u>961,000</u>
Total	\$19,377,900	\$4,071,400	\$15,306,500

Source: Patrick Burden & Associates, estimates (1985).

Information has been adjusted to show primary fund sources at the community level. Federal and state funds received by the City of St. George are included in total funds for the city and are not shown in federal or state expenditures. Federal and state funds discussed below are principally those that flow directly to households.

The federal government is the primary source of public sector funds in St. George, accounting for over 75 percent of total public sector income. A major portion of these funds went to the Tanaq Corporation for the purchase of bird rookeries. The federal government's purchase "of the bird rookeries was a one-time purchase taking 10 years to consummate

A more stable and continued level of federal funds comes from programs such as Social Security, Medicare, and a small number of federal employees. Federal revenue sharing funds will increase as the newly incorporated city receives a full year's funds. Overall, the expected level of federal funding will likely remain stable or decline slightly.

The City of St. George is the second most significant source of local funds with an estimated \$506,400 spent in FY 1984. Much of this money assisted households in the transition from NMFS to local control by enabling expanded city employment and providing loans to residents for training and the establishment of small businesses.

Increased city revenues could result in substantial contributions to the local economy, but the probability of increased revenues is uncertain. St. George received a total of \$8 million in trust as part of the 1983 Fur Seal Act Amendments; recent loans guaranteed by the trust have been provided to the Tanaq Corporation, although any worthwhile project may receive funding as a grant, loan, or other form of assistance (e.g., equity ownership). The St. George Island Trustee administers the trust along with a local advisor. The City of St. George received grants from the trust for the operation of the city government, thus enabling greater employment than possible on regular city funds. The trust is also an important and unique resource in the island economy because of the potential assistance it can provide to local projects. For example, the City of St. George was able to borrow from the trust to make

up the difference for the harbor construction project when the low bid was \$500,000 more than the legislature had appropriated for the project. Without the trust leverage, the city would have been required to postpone the project until it could obtain the full amount needed from the legislature to meet the low bid.

St. George receives about \$324,000 from the PISD in state education funds for its 30 students. A major portion of this money, estimated at \$256,000, remains in the local community for wages and supplies. A total of 27 children have been born in St. George since 1980, indicating an increase in school age students for the near term. This increase will produce additional direct income from wages for teachers, aides, and for supplies.

The State of Alaska has provided a significant sum of money to St. George, primarily in large infrastructure grants for the current breakwater and harbor project at Zapadni Bay. These capital funds will decline after the current projects are completed and as state revenues drop with the decline in world oil prices. These projects have provided important employment and wages over the past two years and as state revenues decline, part-time and seasonal employment will also decline.

The State of Alaska also provides funds directly to St. George residents in the form of assistance programs, including the energy assistance program, AFDC, Food Stamps, and the Longevity Bonus Program. The energy assistance program may be funded at substantially lower levels in the forthcoming legislative session.

The A/PIA provides about \$74,000 to St. George for the VPSO, summer youth programs, social work assistance, and employment and training. The local housing project is another program that A/PIA administers through the AHA. Funds for local community health representatives and health aides are also provided through A/PIA's programs. Some of these programs are subject to funding cutbacks; it is likely that funds contributed to St. George will decline in the near future though the level of such a decrease is unknown.



### Household Expenditures.

Six families were interviewed at St. George by project team members. Estimated monthly expenditures for a household of four persons are presented in Table 6-10. Based on these interviews, the study team projects that St. George households spent approximately \$468,000 in FY 1984 for food and \$567,000 for utilities. Approximately \$614,000 was spent on subsistence supplies, home repair, travel, and other items. About 67 percent of total household expenditures was spent locally (\$1,109,000) with an estimated 23 percent (\$379,000) spent in Seattle and other cities in the Lower 48. Anchorage and other Alaska cities received about \$161,000 or 10 percent of household expenditures.

### Summary of Trends and Anticipated Developments in the Local Economy

The economy of St. George has historically centered around the fur seal harvest, similar to the situation in St. Paul. In 1980 for example, 76 percent of the employed residents on St. George worked directly for NMFS, the federal agency responsible for management of the seal operations in St. George and St. Paul (Dames and Moore 1983c). With the withdrawal of NMFS in 1983, the community faced a choice of developing other types of employment or leaving the island to find work elsewhere.

In response to the economic crisis facing the community, St. George developed a program to create jobs and income for residents in the areas of fisheries, harbor support facilities, tourism, and OCS support activities.

Tanaq Corporation has assisted in development of the currently operating small boat fishery and in construction and operation of the processing facility located in the community. To date, the fishery has been limited to halibut but fishermen are interested in expanding to other species when they have the capability to do so. The next phase of development for fishing activities will be completion of the breakwater and harbor at Zapadni Bay. Breakwater completion is scheduled for 1986, with other harbor developments following thereafter.

TABLE 6-10: AVERAGE MONTHLY HOUSEHOLD EXPENDITURES IN ST. GEORGE

<u>Expense Category</u>	<u>Average Monthly Expenditure</u>	<u>Percent of Total Expenditures</u>
Food	\$ 722	30%
Utilities	879	37
Housing	0	0
Other	<u>790</u>	<u>33</u>
Total	\$2,391	100%

Source: Field interviews (1985). Patrick Burden & Associates, estimates (1985).

The harbor and dock at **Zapadni** Bay will provide needed room for expansion of commercial fishing activities. With **moorage** available, boats will not have to be pulled out of the water after each use and the fleet will no longer be restricted to skiffs. Fishermen in St. George believe that hauling skiffs out of the water is a hazardous exercise, so the new facilities are eagerly awaited. Fishermen hope that larger vessels will make them more competitive with non-local boats.

Plans for the dock area include a new processing facility. The future of the existing processing facility in the community is uncertain. It may be feasible to truck halibut or crab across the island for processing to continue the use of the existing facility. However, this is not a cost efficient procedure for other species such as Pacific cod or **pollock**.

To develop fish processing in the **Zapadni** Harbor, **St. George** residents are working through St. George International (**SGI**) to develop joint venture fisheries operations with a foreign partner. **SGI** was set up as an enterprise group to develop the commercial fisheries on St. George by leveraging trust fund investments of **SGI** through a foreign partner. During fieldwork for this study, two members of **SGI** were on a trip to Japan and Korea seeking a potential foreign partner for fisheries operations development.

Construction employment in St. George has provided a surplus of employment opportunities for residents in the last year. Construction of the breakwater has employed eight local residents. Five workers from St. George also worked at the helicopter support base in St. Paul (field interviews 1985). The **Calista** Corporation was completing HUD homes on the island, although no local residents were working on this project. Employment from capital projects will decline as the current projects are completed unless new projects are undertaken.

Future oil and gas expiration support activities could be based in St. George as a secondary support base for Navarin Basin exploration, or as a primary support base for St. George Basin exploration. OCS activities would provide a major stimulus to the economy, even at relatively low levels of activity associated with exploration.

Tourism could develop into a small but stable component of the economy of St. George. Both St. Paul and St. George attract visitors seeking an unique travel location as well as serious bird and marine mammal watchers. The number of tourists is expected to increase from the 60 tourists who visited St. George in 1985 to 100 in 1986 as this component of the economy is developed through marketing efforts.

Tanaq Corporation will continue to be a major private sector component of the economy of St. George. Tanaq operates the hotel, restaurant, and store. The store has recently expanded and will provide more goods for both residents and visitors.

Most future plans for economic growth on St. George depend upon completion of the dock and harbor facilities in Zapadni Bay. If expected benefits from the facilities do not occur or are delayed, the community will require additional funding to keep the work force employed. In the worst case, residents will migrate elsewhere to seek employment or seek individual public assistance.

When reviewing these plans for future economic development, it is important to recognize that many of the economic enterprise activities listed above are similar to those being pursued by residents of St. Paul. The potential clash of economic plans for the two communities will cause some degree of competition. The fishery operations of St. George and St. Paul are currently in competition for a share of the 600,000 pound halibut quota in IPHC Area 4C. Plans to attract a fish processing company to Zapadni Bay may also cause competition between the communities. Similarly, plans for providing services and provisions to support OCS related activity and to attract tourists to the island may cause competition between the communities since the level of activity may not be high enough to divide satisfactorily between the two communities.

## LAND USE AND HOUSING

### Land Use

The City of St. George includes all of St. George Island (approximately 33 square miles - 21,996 acres) plus the surface water area extending to the three mile limit. Development is concentrated in the village and the new harbor area at Zapadni Bay, about six miles from town. Federal resource management constitutes one of the major types of land use on 4,022.73 acres (18 percent) of the island (NMFS and U.S. Fish & Wildlife Service [USFWS] are the managing agencies). In addition, subsistence is the designated land use over approximately 97 percent of the island, including both public and private lands.

Figure 6-2 illustrates generalized land use within the village area. About 39 percent of that area is designated for residential land use, 24 percent is designated for commercial and industrial use, and the remaining area falls within public, institutional, or open space designations.

Table 6-11 provides a summary of land use patterns within St. George, including existing and potential uses.

### Residential

Two residential neighborhoods are located within the St. George village area: the existing residential area and a new subdivision. The existing residential neighborhoods (homes built prior to 1985) entail approximately 5.5 acres. Within the new subdivision, approximately five acres have been subdivided into 19 residential lots. According to the city's plans, an additional 22.13 acres have been designated for future residential development (St. George Tanaq Corporation, personal communication 1986).

Existing apartments also constitute residential land use and include: an efficiency unit located in a single family home and a 10 room hotel, owned and operated by the Tanaq Corporation. These residential units add approximately one-half acre to the total existing residential land use areas. No plans have

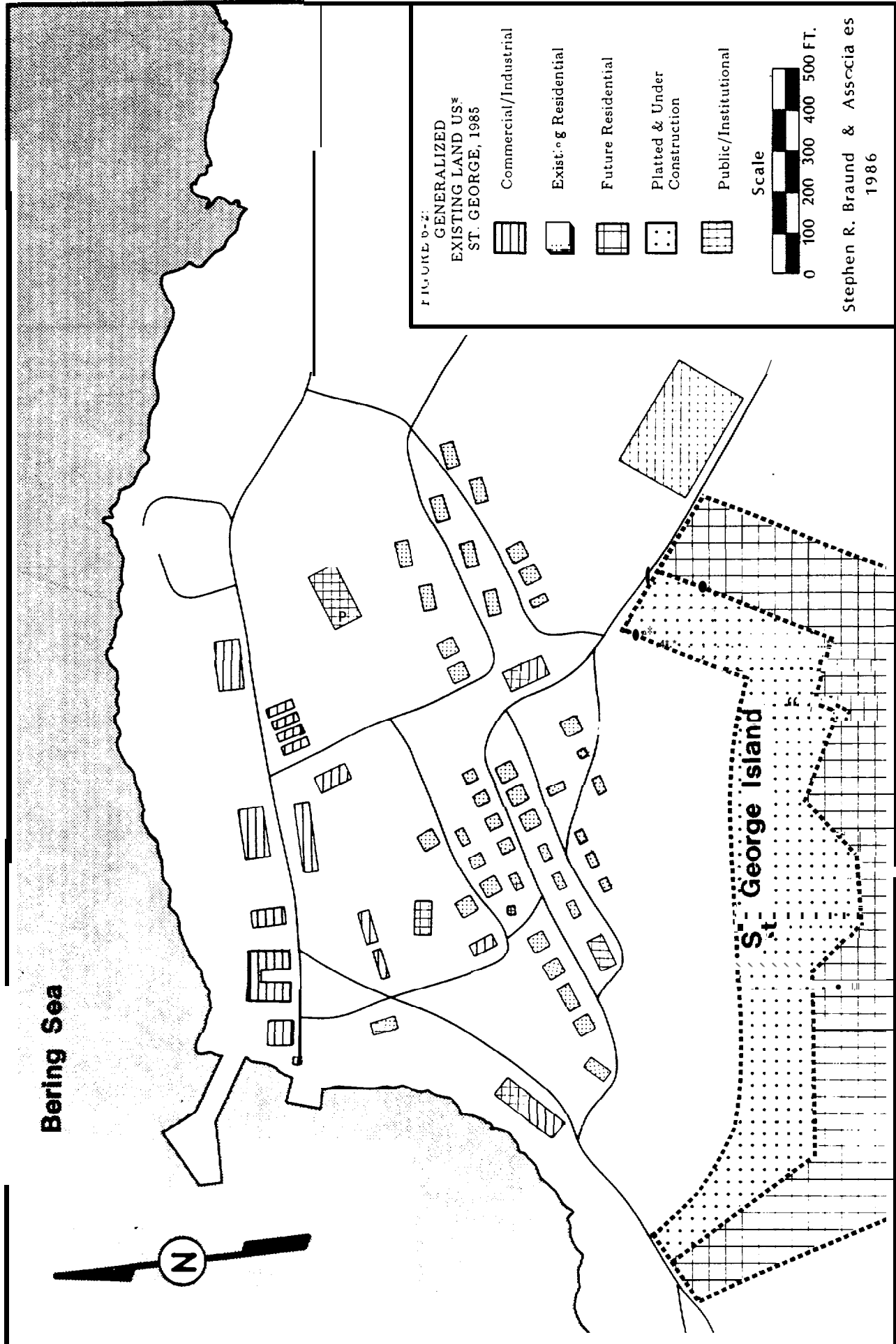


TABLE 6-1 I: EXISTING AND PLANNED LAND USE BY DEVELOPMENT TYPE

TYPE OF USE	<u># ACRES EXISTING</u>	<u># ACRES PLANNED</u>	<u># ACRES POTENTIAL</u>	<u>TOTAL EST. ACRES</u>
Residential	7.44	3.25	22.13	32.82
Commercial/Industrial				
Village	10.30	NA	10.00	20.30
Zapadni Harbor	2.00	10.00	15.00	27.00
Borrow Pit	32.67	0.00	0.00	32.67
Airport Industrial Area	.27	5.00	10.00	15.27
Public/Institutional	4,773.00	NA	700.00	5,473.00
Resource Management /Subsistence	21,336.65 <sup>(1)</sup>	NA	-838.00 <sup>(2)</sup>	20,709.20

1. Subsistence rights remain in effect on lands in federal ownership (seal rookeries and bird cliffs) as well as on most of Tanaq's land.
2. Potential amount of acreage (1,280) the city can select from the village corporation under ANCSA 14(c)(3) minus lands already selected (approximately 442 acres).

Source: St. George Tanaq Corporation, personal communication (1986).

been identified for the development of additional permanent multi-family units at this time (field interviews 1985).

### Commercial and Industrial

Commercial and industrial land use areas exist in four locations within the city: the village, borrow pit area, airport, and **Zapadni Harbor**.

The village commercial and industrial area encompasses approximately 10.3 acres and includes the **Tanaq Corporation** store, carpentry shop, fish processing plant, and the IRA community building store. The borrow pit area is located on 32.67 acres in the center of the island. The airport industrial area currently includes a hanger, an 11,025 square foot helipad with a 800 square foot building that serves as a terminal/weather station in support of both the oil industry helicopter operations and general aviation.

The **Zapadni Harbor** industrial park rests on approximately 10 acres of land owned by the **Tanaq Corporation**. This land is adjacent to the harbor access road, on the interior side. Existing facilities at Zapadni Harbor include a dock and a **small**, unheated storage building (approximately two acres), built by the federal government prior to withdrawal. The city is in the process of constructing a breakwater and dock facility and has constructed a temporary camp for harbor construction workers. In addition, a 15 acre harbor facility has been planned for **Zapadni Harbor**. Thus, the total harbor and related land area currently identified for commercial/industrial development amounts to 27 acres. Figure 6-3 presents the conceptual development plan for the harbor.

### Public and Institutional

Public and institutional land use includes those areas that are used to provide facilities and services as well as land under the USFWS and the National Oceanic and Atmospheric Administration (NOAA) /NMFS resource management and protection. Additional lands will be added to this category when the city selects its entitlement under the ANCSA 14(c)(3) reconveyance which allows 1,280 acres to be transferred from **Tanaq** to the city. Public and institutional land use also includes 16.17 acres received by the city as part of the NMFS



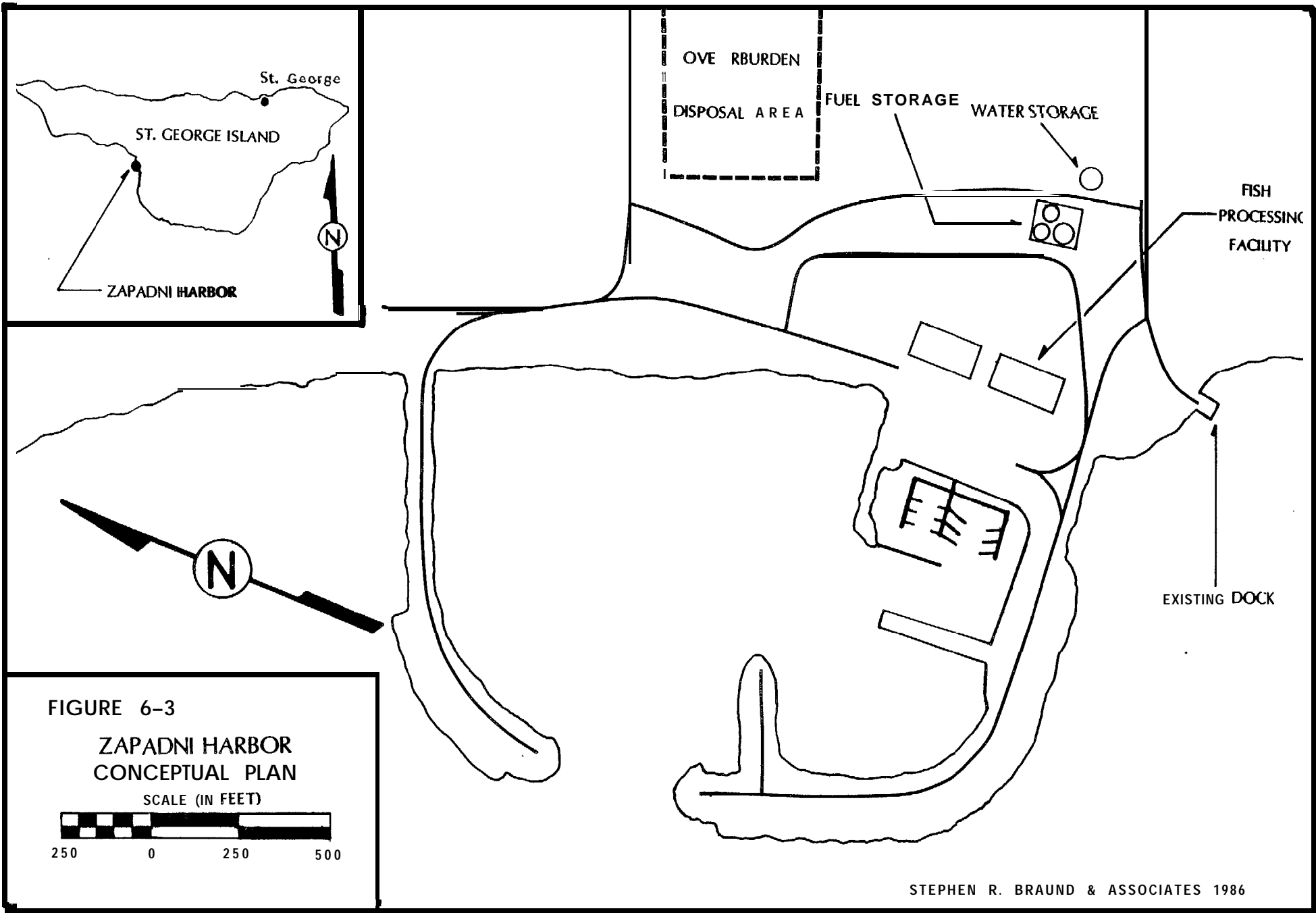
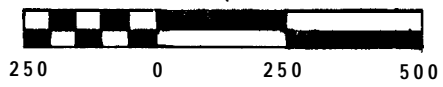
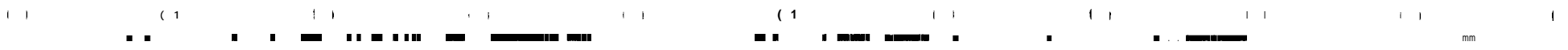


FIGURE 6-3  
 ZAPADNI HARBOR  
 CONCEPTUAL PLAN  
 SCALE (IN FEET)



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withdrawal (patent pending). Total land area included within this category is approximately 4,773 acres.

- Municipal operations include: approximately 100 acres within the village; the 5.78 acre landfill; 3.32 acres at the existing **Zapadni** dock; a 2.8 acre well site; a 0.5 acre helicopter support facility; and the eight miles of roads on the island (85.18 acres).

Additional public and institutional lands in St. George include: PISD lands, 3.21 acres including two houses and the school area; the church, located on about 0.75 acres between the commercial/industrial and residential areas within the village; the 1.4 acre cemetery, located across from the new housing area; and the Public Health Service (PHS) clinic, situated near the southwest end of the village on 0.33 acres. The airport, located west of town, is in the process of being transferred from the NMFS and the **Tanaq** Corporation to the State of Alaska. According to the city, an airport master plan is being developed. Long term plans could require as much as 88 acres, including airways (i.e., flight clearance areas) for the airport.

- The NMFS fur seal rookeries encompass a total of 567.73 acres. These lands are located at: East Reef and East Cliff Rookery; North and Staraya **Artil** Rookery; and **Zapadni** and South Rookery. The USFWS “bird cliff” lands are located along the west and south shores of the island. The USFWS lands encompass a total of 3,455 acres.

#### Subsistence/Open Space

The total land area available for subsistence activities includes both private land and lands managed by the USFWS (local residents have retained rights to subsistence use of these areas), totaling about 21,336.65 acres or roughly 97 percent of St. George Island. Of these lands, 16,960.47 acres are privately held by the **Tanaq** Corporation.

#### Land Use Planning and Coastal Management

The city has not formally assumed land use or coastal management authority pursuant to Title 29 of the Alaska State Administrative Code. The city

administrator indicated that decisions regarding land use and development are now made in cooperation with the Tanaq Corporation. The city is planning to begin preparing a land use plan within the next year (field interviews 1985).

### Constraints and Opportunities on Land Use and Development

Land development on St. George is constrained by land ownership patterns, potable water, limited infrastructure, subsistence use, and the absence of a land use plan with implementing regulations. However, over the past three years the city has worked closely with the village corporation and tribal council to attract economic development related to the fishing and oil industries. The following constraints necessitate careful siting and design of development projects.

#### Land Ownership and Management

Major land owners on St. George include the federal government (rookeries and bird cliffs) and the village corporation. Land use and development is restricted on federal lands in order to protect and enhance wildlife and subsistence use. The majority of the land area owned by the village corporation is used for subsistence and is classified as open space. The city has not completed the selection of lands for reconveyance pursuant to ANCSA 14(c)(3).

Due to the lack of a land use plan or implementing regulations, no specific areas outside of the harbor and village have been identified for future land use conversion or development. Land area has been set aside within the village for future residential development. The harbor plan identifies general siting and acreage available for harbor related development. When completed, the airport master plan will provide a program for the expansion and development of basic airport facilities. All of these separate plans will be incorporated into a land use plan by the city in the near future. In the absence of such a plan, all projects will need to be negotiated on a case by case basis with the city and the village corporation.

#### Potable Water Supply

The community is in the process of developing a potable water system and phasing out the use of reverse osmosis (a salt water desalination system

within the village). As funds become available, and as analyses determine the ultimate capacity of the potable water supply, additional development can be accommodated. However, the uncertainty of the quantity of potable water may constrain developments that require large amounts of potable water for operations. To the extent possible, new facilities may need to include systems that rely on non-potable water (salt water systems) as a basic design component.

#### Infrastructure

Additional development will require the expansion of basic sewage, solid waste, power generation and distribution, bulk fuel storage, and transportation systems. Some additional growth can be accommodated within the village without major expansion of these systems. However, within the harbor area development will need to include all necessary infrastructure in a self-contained camp design.

#### Transportation

Existing transportation systems on St. George are in the process of being expanded and developed. Recent improvements to the airport facilitate air transport linkages to Cold Bay, Anchorage, and St. Paul. The road system from the village to the new harbor requires improvement, and a bypass around the airport runway needs to be constructed; however, no funds have been identified to conduct this work. Work has begun on the development of an initial harbor facility and the basic breakwater, dock, and minimum services should be completed within the next two years. Until the harbor is completed, marine transportation is hampered by landing and **lighterage** conditions.

#### Oil Industry Activity

The community is soliciting and supporting oil industry activities on the island. The new helipad was developed by the city and Tanaq Corporation with private oil industry investment. The city and **Tanaq** anticipate providing support services for both air and marine transportation linkages in St. George and Navarin Basin oil industry activities.

### Fisheries

The community has developed a fish processing plant and local residents have engaged in a day-boat commercial fishery for the last several years. Existing fisheries facilities are located within the village. Future development plans for the harbor area include additional fisheries facilities and support services.

### Subsistence Uses

The protection of lands used for subsistence activities has and will continue to direct growth and development to areas near the village, harbor, and airport.

### Land Status

The Pribilof Islands were the center of the fur seal industry when Alaska was purchased from Russia in 1867. To protect both the industry and the seal breeding grounds, Congress made the Pribilofs a "special government reservation" in 1869 (Jones 1980). The islands were managed by various agencies within the U.S. Treasury Department and the Department of Commerce until the passage of the ANCSA in 1971 and the withdrawal of NMFS from the Pribilof Islands on October 28, 1983.

### Land Ownership as a Result of ANCSA

The status of land ownership in the Pribilofs changed with passage of ANCSA. In St. George, most of the land was transferred to the Tanaq Corporation, the local village corporation. Since the island's 33 square mile area (21,996.2 acres) is less than the corporation's entitlement (115,200 acres) under the act, the corporation has chosen additional land outside of the Pribilofs, primarily in the Aleutian Islands. Under ANCSA Section 14(c)(3), the corporation must reconvey up to 1,280 acres (or less if agreed to in writing) to the city for municipal use.

At the time of the ANCSA conveyances to the village corporation, the government retained ownership of certain parcels on the island (ANCSA 3(e) withdrawals), including the seal rookeries, landfill, airport, roads, and specific parcels

within the village used in the NMFS biological research operations such as the administrative complex, staff quarters, docks, utility systems, fur seal and harbor buildings, and five residential units. The federal government also retained ownership of the school and clinic. Additionally, easements were reserved for the island's road system and for access along the shoreline. Total acreage retained under federal (NMFS) ownership encompasses 567.73 acres.

Subsurface rights were transferred to the **Aleut** Corporation, with the exception of some areas retained by the federal government.

The city's selection of land as part of the ANCSA 14(c)(3) reconveyance process from the village corporation has not been initiated, nor has a date for commencing the process been identified by the St. George City Council. However, the city has secured interim conveyances, leases, and easements from both the village corporation and the NMFS to meet their immediate requirements for specific projects. The city intends to select lands only as needed for development of specific services in accordance with a standing city policy to not compete with private development (field interviews 1986).

Finally, private ownership has changed within the last two years as the **Tanaq** Corporation has transferred title of lands, pursuant to ANCSA, to individual homeowners and to the church.

#### Other Land Transfers

In 1982 and 1984, the village corporation sold 5,600 acres of land to the USFWS for inclusion in federal management programs; 3,455 of the 5,600 acres were on St. George Island.

As part of the federal withdrawal from the **Pribilof** Islands Project in October 1983, a memorandum of understanding was signed between the U.S. Department of Commerce and local representatives (City of St. George, **Tanaq** Corporation, and the St. George IRA Council). This memorandum identified lands to be transferred from federal ownership to local, private, and/or state ownership. The transfer of property has not been completed and the schedule for final transfer is uncertain. However, the memorandum of understanding included a

general identification of transfer provisions: most lands and buildings of a public nature will be transferred to the city; lands for the school, airport, and airport road will go to the State of Alaska; and the carpentry shop, one house, and store building will belong to the village corporation,

The city has acquired a right-of-entry permit for land under the breakwater and dock from the State of Alaska. An official tideland lease permit cannot be executed until completion of the harbor improvement construction and survey of the tidelands (at which time the actual size of the parcel will also be determined).

### Municipal Boundary

At present, the city's boundary encompasses the island and extends to the surrounding three mile limit. The city does not currently own any land, however. As mentioned above, the federal government's memorandum of understanding indicates an intention to transfer most of its public land and buildings to the city. The city is also entitled to up to 1,280 acres of the ANCSA lands owned by the village corporation (less the acreage transferred from the NMFS to the city under the memorandum of understanding), but these selections have not yet occurred. Approximately 442 acres have been conveyed to the city from the NMFS and Tanaq under the interim conveyances described above, however these agreements do not confer formal ownership.

### Federal Ownership

Large parcels of land on the island are under federal ownership and management. These include lands managed by both the NMFS and the USFWS. According to the village corporation, there are no other known plans for federal acquisition or disbursement of additional land areas.

### State Ownership

Currently, the State of Alaska does not own any land on St. George Island. As mentioned above, upon execution of pending land transfers from both the federal government and the village corporation, the state will acquire ownership of the

following areas: airport, 88 acres; **Zapadni** road easement, approximately 60 acres; and the school and teachers' housing, 3.21 acres.

### Private Ownership

The **Tanaq** Corporation is the major private land owner on St. George Island. Its holdings include 16,960 acres and, if the terms of the memorandum of understanding are complied with and specified lands are transferred to the village corporation from the NMFS, the corporation will receive an additional 50 acres. However, the total land area retained by the corporation will be influenced by the final amount of land selected by the city from **Tanaq** for reconveyance under ANCSA 14(c)(3).

Table 6-12 summarizes land ownership by major ownership categories. Figure 6-4 identifies generalized land ownership patterns on St. George Island as of August 1985 (field interviews 1985). Figure 6-5 illustrates generalized land ownership within the village according to planned land transfers from NMFS to local organizations (U.S. Department of the Interior, Bureau of Land Management 1985).

### Housing

U.S. Bureau of Census data for 1983 identified a total of 45 housing units on St. George, 37 of which were owner occupied, three were renter occupied, and five were vacant (Dames and Moore 1983c). However, **local** sources informed the study team that total residential units available for the permanent, local population numbered 42 through 1984. The remaining units housed federal and state personnel temporarily assigned to the community. In 1984, five new Bureau of Indian Affairs (**BIA**) single family units were constructed. Two teachers' homes and eight HUD houses were added in 1985 for a total of 57 housing units in St. George. Occupancy of the new units is anticipated by the spring of 1986 (field interviews 1985).

The residential area is located on the south side of the village, uphill from the commercial area and school. A new plat designated the area south and southwest of the village for residential development as well. To date, 19 lots



TABLE 6-12: 1985 ST. GEORGE LAND OWNERSHIP<sup>1</sup>

<u>LAND OWNER</u>	<u>EXISTING ACREAGE</u>	<u>POTENTIAL ACREAGE</u>
Public Ownership		
Federal Lands	4,022	3,858
State Lands	(93)	151
Municipal Lands	(442)	1,280 (2)
Private Ownership	16,967	15,682

( ) Parentheses indicate interim conveyances.

1. Accounting for all acreage by owner was not possible for this study; hence, these figures are approximate.

2. Lands transferred from the federal government (NMFS) to the city have been considered part of the city's land entitlement under ANCSA 14(c)(3).

Sources: Field interviews (1985). St. George Tanaq Corporation, personal communication (1986). City of St. George, personal communication (1986).

FIGURE 6-4:

GENERALIZED  
LAND OWNERSHIP  
ST. GEORGE ISLAND  
1985

Fur Seal  
Rookeries

Public

Private



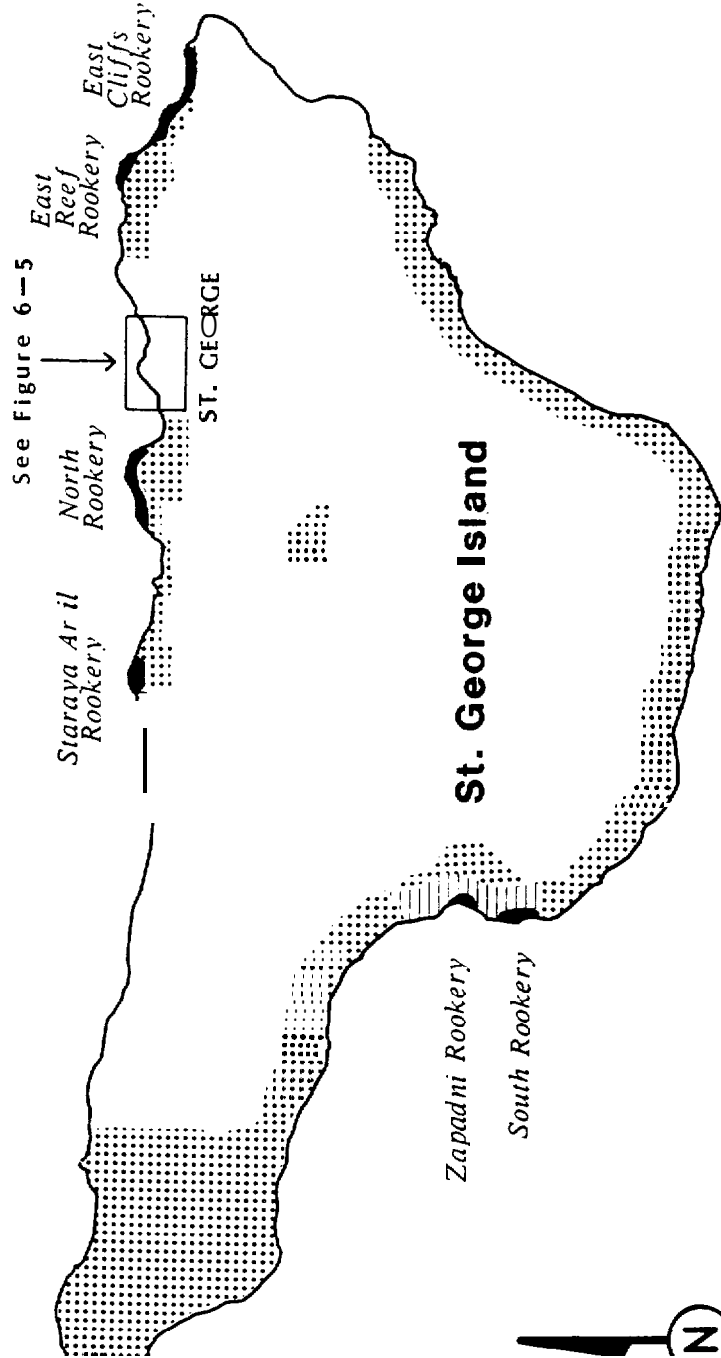
Public  
Private

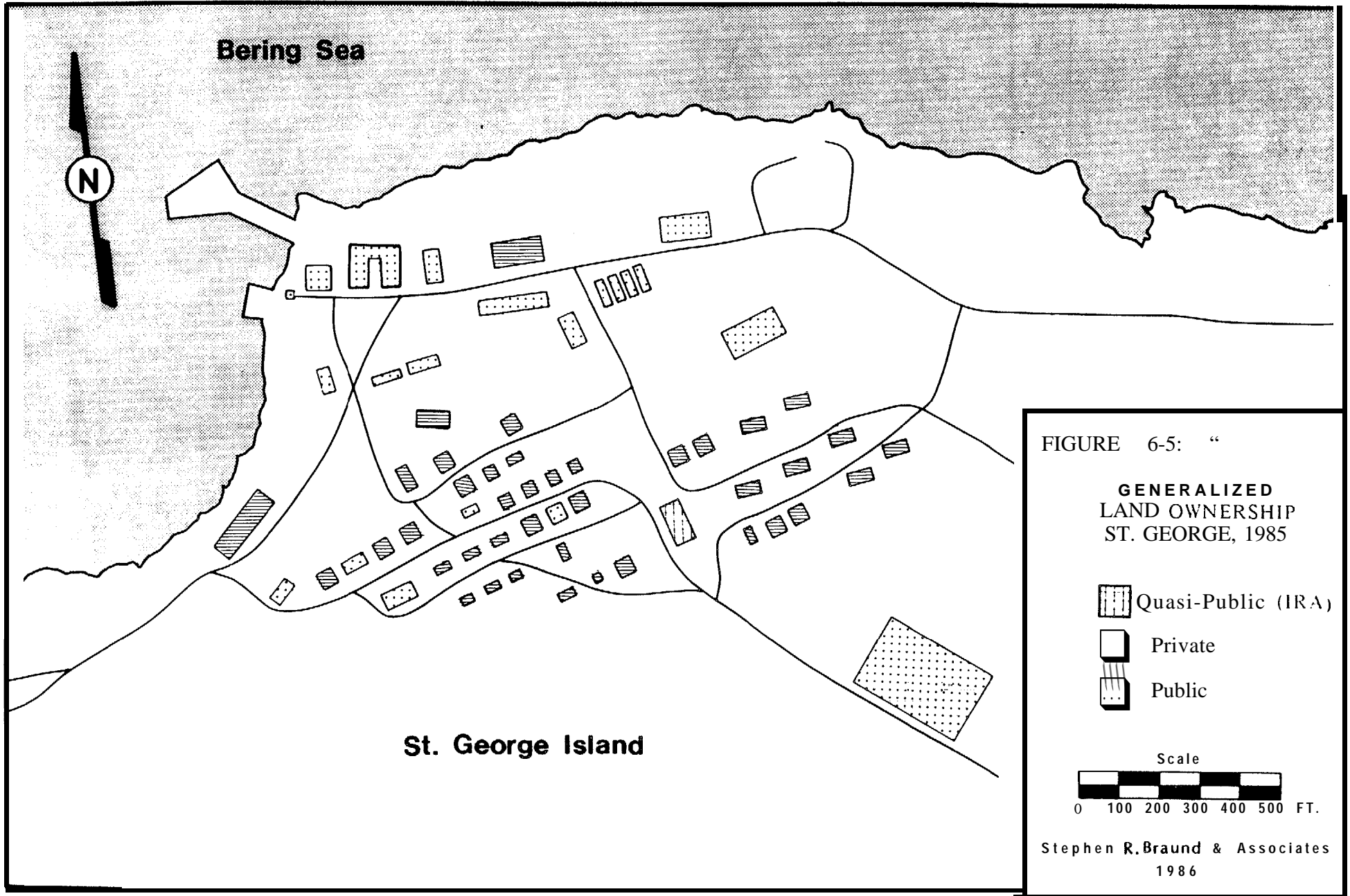
Scale



Stephen R. Braund & Associates

Bering Sea





have been platted, each averaging 11,000 square feet. The houses constructed in 1984 (five homes) and 1985 (eight) are located within the recently platted area, and the two new teachers' residences are being constructed on lots within the original townsite.

In addition to these dwellings, the city assembled a temporary construction camp at Zapadni in 1985 on land owned by Tanaq. The camp was constructed specifically to house employees of the harbor construction contractor. It sleeps about 14 people and contains a kitchen, recreation area, and its own generator. The camp was used in the summer and fall of 1985 and was to be used in the 1986 construction season also. The city has no future plans for the camp after the harbor is completed. Because the city has rights to use the land on which the camp is situated through 1986 only, the camp may be removed in 1986.

- Approximately 68 percent of the existing local, permanent residential structures were built prior to 1940 (Gorsuch and Hull 1983 b). Between 1946 and 1965, approximately six additional housing units appear to have been constructed in St. George, bringing the total number of residences to 35 (Gorsuch and Hull 1983 b). According to testimony presented in the 1965 Bartlett Hearings during the federal government's effort to relocate St. George residents to St. Paul in the early 1960s, two significant events impacted local housing stock: 1) no additional housing was constructed unless it was essential for the fur seal operation; and 2) when a family voluntarily moved from the community, their house was destroyed. Approximately 13 families, totaling 68 people, moved from St. George to St. Paul between 1964 and 1970 (Jones 1980). As homes were destroyed on St. George, additional homes were built on St. Paul to accommodate the new residents. According to the testimony, at least two homes were destroyed, and based on new construction on St. Paul, four or more homes may have been destroyed (Gorsuch and Hull 1983 b). According to U.S. census data, housing was back down to 29 residential units on St. George in 1970 which suggests that six homes were destroyed between 1965 and 1970, the same period when 68 people moved to St. Paul.

The average household size has declined from 6.4 in 1940 to 3.97 in 1980. It is anticipated that the completion of 1985 housing construction will further

reduce the average number of persons per household to about 3.4. Since most of the units have two bedrooms, overcrowding of housing units may substantially decrease. However, physical inventories of units transferred from the NMFS indicated that two units are inadequate and may require major renovation or demolition. Table 6-13 illustrates average occupancy per household over the last 85 years.

### Housing Stock

St. George housing consists of five basic types of housing stock: one story and 1-1/2 story concrete units probably built in the 1930s; one story brick and wood units probably constructed during the early 1960s; wood-frame units; unclassified units (efficiency unit, upper level of biology laboratory, and old firehouse); and new homes.

**Concrete:** These structures were probably built in the 1930s (based on comparable housing styles and materials used in St. Paul for the same time period) and are in need of **weatherization** work. Most homes appear to be structurally **sound** and in better **overall** condition than wood structures.

**Brick:** The project **plans** used for this type of structure are dated December 12, 1959. However, the **actual** date of construction of these units on St. George is uncertain. These homes are generally in good condition with some minor repairs and **weatherization** required.

**Wood:** These units are typically single story and are each slightly less than 1,290 square feet. The homes require **weatherization**, repair and rehabilitation work to bring them into compliance with livable and safe housing standards.

**Unclassified:** Biology/Lab Quarters - **ADOT/PF** has recommended that the residential unit in the second story of this building be vacated. Cottage C has been modified to include a small efficiency apartment which requires additional improvements to make it safe. NMFS quarters #7 was the old fire station for the community which was converted into living quarters. However, the building is not recommended for continued future use and has been vacated.

TABLE 6-13: ST. GEORGE AVERAGE OCCUPANCY PER UNIT

<u>YEAR</u>	<u># of Units</u>	<u>Population</u>	<u>Average # Persons/Unit</u>
1940	29	185	6.40
1946	29	176	6.10
1950	NA	195	NA
1960	NA	249	NA
1965/1967	35 <sup>(1)</sup>	172 <sup>(2)</sup>	4.90
1970	29	156	5.40
1980	39	155	3.97
1983	42 <sup>(3)</sup>	158 <sup>(4)</sup>	3.76
1984	47 <sup>(3)</sup>	172 <sup>(6)</sup>	3.66
1985/1986 projection	57 <sup>(3,5)</sup>	179 <sup>(6)</sup>	3.14
(Native only)	55 <sup>(7)</sup>	174 <sup>(8)</sup>	3.05

NA: data not available.

1. Estimates by **Gorsuch** and **Hull (1983b)** of number of dwellings in 1965.
2. Estimates by **Gorsuch** and **Hull (1983b)** of 1967 population.
3. Includes all permanent single and multi-family residences, occupied and vacant. Does not include hotel. (City of St. George, personal communication 1986.)
4. Dames and Moore (1983c).
5. Includes both Native and non-Native residences plus new units under construction for early 1986 occupancy.
6. Includes both Native and non-Native population.
7. Includes only those residences occupied by local, permanent residents as well as eight new units under construction.
8. Includes 1985 census data for Native population only.

New Housing: New homes built during 1984 and 1985 are modular wood structures, including one and two story units. These 15 homes were built with funds provided by the BIA, HUD, and the State of Alaska.

#### Future Housing Demand

Based on the city's forecast, adequate land appears to be available to accommodate forecast housing demand through 2005. However, this projection assumes that special transient housing requirements such as facility camps will be provided by the private sector. Table 6-14 shows the city's forecast for housing construction demand in St. George. The ability to meet future housing demand, whether for permanent or transient residents, depends in part on the ability of the water supply to support additional demand. If the water supply is strained by population increases, PHS and/or Alaska Department of Environmental Conservation (ADEC) may not approve added residential construction.

#### Summary

Tanaq, the ANCSA village corporation, is the major landowner on St. George Island as a result of land transfers from the federal government to Tanaq under ANCSA. The government retained ownership of seal rookeries and bird cliffs as well as other lands associated with the former NMFS seal processing operations. The NMFS is in the process of dividing up and transferring the latter category of lands to appropriate state and local organizations since the NMFS is no longer involved in commercial seal harvesting and processing.

The residential area of St. George is concentrated in the village area and consists of old housing as well as a newer subdivision developed in 1985. A campaign by the NMFS in the 1960s to concentrate their activities in St. Paul resulted in the relocation of many families from St. George to St. Paul; at that time, several of the vacated homes were destroyed. The trend of out-migration turned around in the 1970s, however, and housing demands have grown consistently since then. One possible impediment to future residential expansion may be a shortage of potable water sources on the island.

TABLE 6-14: ST. GEORGE HOUSING CONSTRUCTION DEMAND FORECAST

<u>Year</u>	<u>With Harbor Development</u>	<u>With Oil Development</u>	<u>Total</u>
1990	0	10	10
1995	5	0	5
2000	0	5	5
Total	5	15	20

Source: International Engineering Company, Inc. (1984a), Report for the City of St. George.



## COMMUNITY FACILITIES AND SERVICES

### Community Facilities

The community is served by various public and quasi-public buildings including the community hall, school, city administrative offices, church, hotel, and structures which house the city's public works operations. Figure 6-6 identifies the locations of various community buildings within the village. A listing of most community facilities follows, with numbers corresponding to those on Figure 6-6 and a brief description of building use and condition.

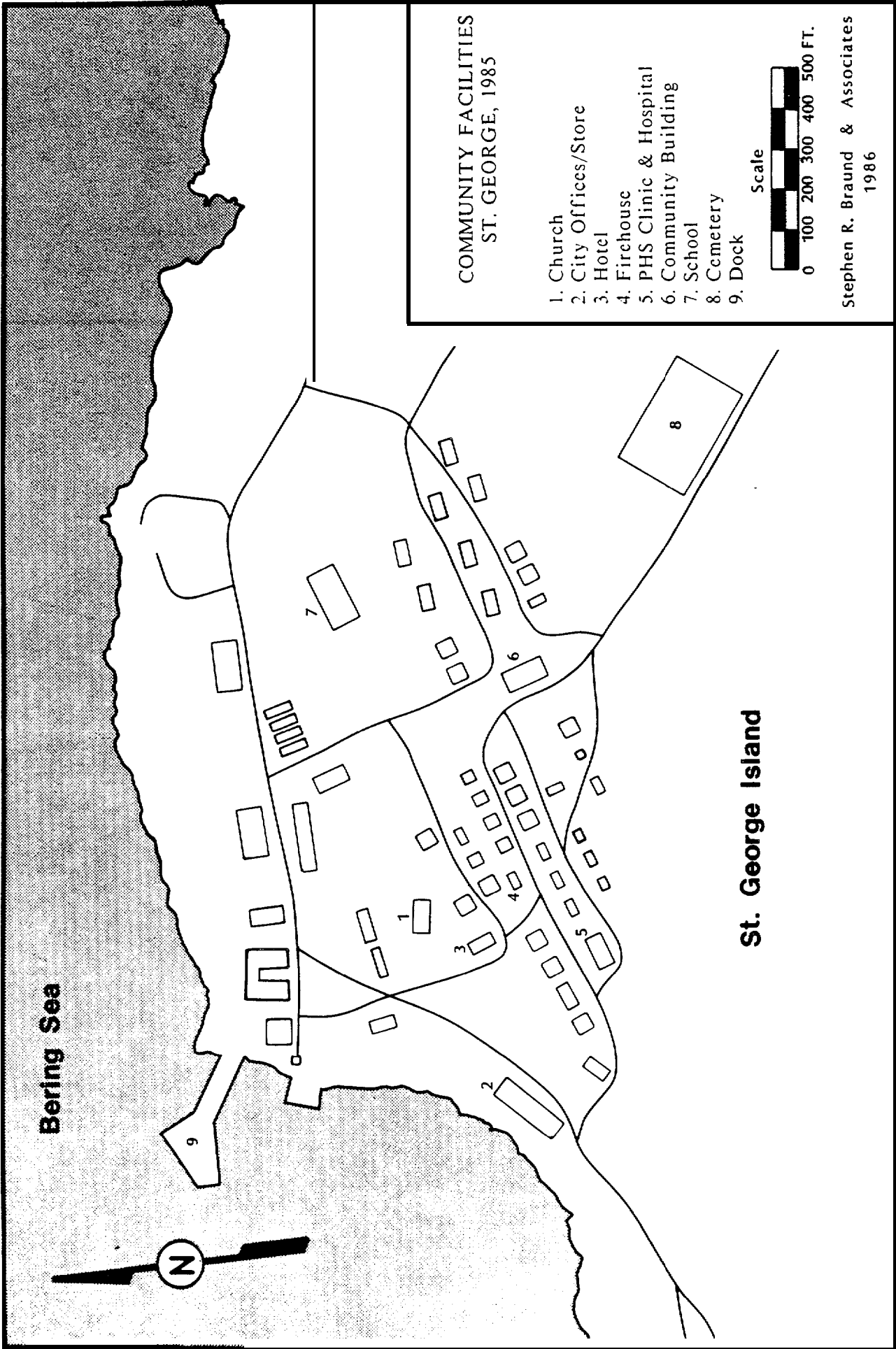
#### 1. Church

The church building was constructed in 1936 in the architectural style that typifies Alaskan Russian Orthodox churches. The 160 member congregation (i. e., virtually the entire population) is under the supervision of the subdeacon who resides in St. George. The priest from St. Paul comes to the island periodically to officiate ceremonies.

#### 2. City Office/Store

This building is situated about 40 feet from a bluff overlooking the Bering Sea. The north side of the building provides an unobstructed view of the sea and village dock area. Originally built about 1954, this two story structure housed the NMFS offices, post office, jail, a small store on the lower level, and provided warehouse space on the second level. The 11,760 square foot building is in the process of being transferred from the NMFS to the Tanaq Corporation. Currently, the building houses the City of St. George administrative offices, the post office, and the store on the first floor, as well as a 35-bed lodging facility on the second floor. During the summer of 1985, the store was expanded from 800 square feet to 2,000 square feet to accommodate increased stock and a new line of hardware goods.

The building is constructed of masonry and is in need of renovation. According to ADOT/PF (1982b), more than \$300,000 would be required to bring the building into compliance with office/warehouse facility codes and regulations.



### 3. Hotel

One of the oldest buildings on St. George, the three story "Company House," is owned and operated by the **Tanaq** Corporation. The facility has been used for tourist accommodations for the last two years and housed approximately 60 tourists during the summer of 1985. The structure includes 10 rooms (six doubles, three singles, and a cook's room), a communal dining room, a library on the main floor, and a parlor on the top floor.

The original wooden floors, bookcases, and much of the furniture are intact. Since **Tanaq** began managing the facility, approximately \$15,000 has been spent on upgrading the building. It has been estimated that in excess of \$500,000 would be needed to bring the building into compliance with applicable codes (Alaska Department of Transportation and Public Facilities 1982b).

### 4. Firehouse

This 35 year old, 1,672 square foot structure includes the original two story, wood-frame building and a one story addition. The firehouse contains the community's fire trucks and emergency equipment. Slightly more than \$100,000 will be necessary to bring the facility into compliance with the codes, including the addition of a fire alarm system and exit lighting (Alaska Department of Transportation and Public Facilities 1982 b).

Adjacent to the firehouse is another old building with unique architecture: the original firehouse. The building is currently vacant, but has been used in the past for housing. Due to its deteriorated condition, bringing the building into compliance with codes may not be cost effective. However, placing this structure on the historic landmark register is being considered (Alaska Department of Transportation and Public Facilities 1982 b).

### 5. Public Health Service Clinic

This facility is operated by PHS and provides routine medical services and emergency treatment in conjunction with St. Paul and the Alaska Native Services hospital in Anchorage (see Health).

#### 6. Community Building

The community building is owned and managed by the IRA Council. The facility provides both office space and a canteen.

#### 7. School

The modern school includes five classrooms, an administrative office, and a multipurpose room and can accommodate up to 50 students from kindergarten through the eighth grade. The building was constructed in the 1950s and expanded in 1976 and 1982. It is used for community events and public meetings in addition to regular school activities.

#### 8. Cemetery

The 1.4 acre cemetery is located on the east side of the road to Upper Lake.

#### 9. Dock

The village dock provides approximately 50 feet of tie-up area. However, water depth at the dock does not permit direct off-loading of cargo vessels and thus all supplies are lightered to shore. Wind and wave conditions hamper the use of the facility and force use of the dock at Zapadni during inclement sea and weather conditions.

Additional community facilities are located outside of the village area, including Zapadni Harbor, the airport, and roads.

#### Zapadni Harbor

Harbor facilities at Zapadni presently include a warehouse and dock. The city is developing quarry operations to obtain rock for the construction of a breakwater and the city has built a temporary construction camp for harbor construction project employees. Initial development of the harbor (anticipated in 1986) will include exterior breakwaters, a 150 foot dock, a dock crane, a dock float and gangway, boat ramp, oil spill containment boom storage, and fuel connection to the dock. Long term plans for the harbor include the use of approximately 15 acres to provide the **following** types of facilities and services: fuel storage, 100,000 gallon water storage tank, gear storage, cold storage, fish processing plant, three docks, boat launch

float and ramp, finger floats, harbormaster building, and three breakwaters (Peratrovich, Nottingham, and Drage, Inc. 1984a).

Figure 6-3 illustrates the overall design for the **Zapadni Harbor** project. In the vicinity of the harbor, a 40 acre site has been identified for use as an overburden disposal **area**; this site could provide an opportunity for reclamation into industrial uses at a later date. A description of the harbor industrial park area proposed for future development is found in Land Use, Commercial and Industrial earlier in this chapter.

### Airport

Existing airport facilities include a 3,800 foot runway (currently being extended to 4,550 feet); a 105 by 105 foot helipad; a 570 by 30 foot taxiway connecting the helipad to the runway; two parking aprons (one adjacent to **the** airport hangar and the other near the helipad); **low** intensity white lights **along** the runway; red and **green** approach **lights** at both ends of the runway; medium intensity lights **around** the perimeter of the helipad; a **non-directional** beacon; distance measuring equipment; approach strobe; three orange markers extending from the west end of the runway; and two lighted wind socks. During the summer of 1985 the city **also** began maintaining a supplemental aviation remote weather station at the airport; this service will be provided as long as the oil industry continues to use the helipad. The city is awaiting approval for an official instrument approach from the Federal Aviation Administration (FAA).

Two buildings are **located** at the airport: a 4,800 square foot unheated hangar and an 800 square foot weather station/terminal near the helipad taxiway. The terminal is heated, has power, restroom facilities, telephone, and air-to-ground and VHF radio communications.

### Roads

Most roads on St. George Island are maintained by the city, but the six miles of roads between the village and **Zapadni Harbor** have been transferred to the State of Alaska under an interim conveyance. Most roads were developed in association with fur seal harvest operations and are scoria-surfaced, approximately 16 to 18 feet wide, and have been identified

as being in fair to poor condition (Peratrovich, Nottingham, and Drage, Inc. 1984 b). Roads within the village do not provide adequate right-of-ways near buildings, especially near residential units.

One 4,000 foot portion of the road between the village and Zapadni Harbor overlaps the airport. The city plans to develop a bypass road south of the airport to separate vehicular and aircraft traffic. Table 6-15 presents the city's five year capital improvement plan for roadways.

### Utilities

#### Water

The community water supply presently comes from two sources: the old wells near Upper Lake which have been contaminated by salt water intrusion, and the PHS clinic which provides potable drinking water to residents from a reverse osmosis desalination machine. A new well near Zapadni was drilled recently and will be connected to a distribution system in 1986. The long-term plan is to develop a maximum of three wells and up to a million gallons of storage capacity near Zapadni. The distribution of water from the new well will initially tie into the present system; however, plans have been formulated for the gradual replacement of the present system.

The existing water distribution system was originally constructed (in the 1950s) to provide water from Upper Lake through a four inch galvanized iron water line to the village area. In the mid-1950s, the water supply was moved to the two wells near Upper Lake and was distributed to the village through a new six inch galvanized pipe from a 240,000 gallon storage tank. The system has been periodically upgraded since that time; the most recent expansion was the hookup of five new homes to the system in 1984.

In the early 1970s, a reverse osmosis plant was installed at the clinic to desalinate about 400 gallons per day of water. The installation of a reverse osmosis plant was necessitated by the intrusion of salt water into the water supplied by the two wells near Upper Lake. The unprocessed well water is still used for washing, bathing, industrial activities, and fire fighting, while the desalinated water is used for drinking. As the new

TABLE 6-15: FIVE YEAR CAPITAL IMPROVEMENT PLAN  
FOR THE ROAD SYSTEM

<u>Description</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>
Pit Development	\$153,000	\$38,000	\$68,500	\$82,500	\$68,500
Road Construction	\$250,000				
New Equipment	(1)	(1)	\$500,000		
Safety Improvements	13,000				
<b>Total</b>	<b>\$416,000</b>	<b>\$38,000</b>	<b>\$568,000</b>	<b>\$82,500</b>	<b>\$68,500</b>

1. During harbor construction arrangements will be made for the city's use of contractor's equipment.

Source: Peratovich, Nottingham, and Drage, Inc. (1984 b), Road Assessment Study.

water supply from Zapadni comes on line, use of the contaminated water will be terminated. The new water supply will be an enhancement for current residents of the island and will permit additional residential expansion to occur on the island.

In October 1983, the city assumed responsibility for operation of the water system. The system included the two wells approximately 200 to 225 feet deep, a 240,000 gallon storage tank, pumps, and the distribution system. Based on an analysis of the water system conducted in 1984 (Peratrovich, Nottingham, and Drage, Inc. 1984c), \$41,000 will be required to make the following improvements: repair and service fire hydrants, identify and replace deficient service lines, install a level control system on the storage tank, and upgrade the distribution system (rehabilitate control pits, install meters and valves, and replace existing valves).

Plans have been developed by the city to increase the quantity and quality of the ground water supply system. Specific long-range plans include: develop fresh groundwater wells, provide tank water level controls, repair the existing well houses, repair the water tank, construct a pump house and water treatment plant, develop a water transmission line to town from the proposed treatment plant, construct a new six inch water main to the industrial area, replace the existing water distribution system, and construct a new 100,000 gallon storage tank for public buildings and domestic use. Total estimated costs for the long range plan are \$1.6 million in 1984 dollars (Peratrovich, Nottingham, and Drage 1984c).

#### Sewage

The existing sewage system, maintained and operated by the city, includes four and six inch vitrified clay pipes leading to a septic tank system. The original system of pipes was installed in 1951 with the septic tank systems added in 1965. Septic tanks have not been pumped and have failed due to poor percolation (Collins 1982 b). According to PHS construction plans, a new sewer service line was developed to service eight single family residences in 1985. Additional work will also be required to replace and repair existing sewage infrastructure.



### Solid Waste

The community landfill is located on a 32.67 acre site in the center of the island and is operated by the city. An evaluation of this disposal area, in addition to others, was conducted by ADEC in 1983 and additional inventory and **clean** up programs have been undertaken by the U.S. Army Corps of Engineers (Harmon 1983). The facility must be brought into compliance with the Environmental Protection Agency (**EPA**) standards, and proper state permits should be obtained. However, no funds have been identified to accomplish this.

### Electric Power

The city assumed responsibility for operation of 600 KW capacity power facilities upon the withdrawal of NMFS in 1983. Inherited facilities include: the power house, primary underground feeders, transformers, and secondary underground supply conductors. The power plant was constructed in 1961 and includes: three 100 KW generators, one 300 KW generator, two transformers, and a main panel board with five additional feeder positions.

The 2.8 miles of 480 volt primary underground feeders require a changing of the circuit breaker at the main panel, addition of conductor overcurrent protection, and revision of existing metering system to measure **actual** consumption of **all** structures and machinery. Estimated costs to upgrade the power generation and distribution system are \$416,000 in 1984 (International Engineering Company, **Inc.** 1984a). **While** the city has discussed the possibility of extending electrical service to the Zapadni Harbor, until customer demand warrants such an expenditure, developers must generate their own power (**field** interviews 1985).

The cost of city-generated electricity in St. George is 40 cents per kilowatt hour (KWH). Subtracting from this amount the Power Cost Equalization subsidy of 23 cents per KWH for the first 750 KWH, the actual price to consumers is 17 cents per KWH.

### Fuel Storage

The city assumed responsibility for bulk **fuel** storage and distribution in 1983. Facilities transferred from NMFS included: diesel tank farm;

- gasoline tank farm; cargo line, gasoline, and diesel transport lines; propane cylinder storage building; aviation gasoline storage facilities; and an abandoned tank farm.

Historically fuel has been **delivered** annually in early summer. Commencing in August 1984, **fuel** delivery to St. George was no longer provided under government contract, but it is still delivered annually. Approximately 240,000 gallons of diesel, 30,000 **gallons** of gasoline, 150 **55-gallon** drums of aviation gasoline, and 160 100-pound cylinders of propane were required annually prior to 1984. The development of additional housing, a fish processing facility, and other construction activities since 1984 have increased fuel requirements. The city anticipates developing fuel storage capacity at **Zapadni** but has not secured funding for this project. For village needs, the existing storage capacity in St. George is currently adequate as demand is not expected to continue increasing. Residents pay \$1.45 per gallon for heating fuel (diesel) and consume an average of 360 gallons per household per year.

According to ADOT/PF (1982 b), the existing fuel storage facilities do not **comply** with federal and state regulations and extensive work is needed to upgrade them. Tank farms need to be diked and lined; lighting alarms, fences, and tank level indicators need to be installed; and proper spill prevention and containment materials, training, and a plan need to be acquired. Additionally, abandoned tanks need to be removed at an estimated cost of \$806,000 (International Engineering Company, Inc. 1984 b). The city added two new aviation gas tanks in **1985**: a 20,000 gallon storage tank and a 2,200 gallon transport tank.

### Health

- The PHS operates a small clinic on the island which is staffed by a part-time nursing assistant and a community health representative. The facility provides a basic level of medical care and emergency services until the physician's assistant from St. Paul and/or a medical evacuation unit arrive. The clinic has a capacity of six beds.

The clinic also operates the reverse osmosis machine which provides potable water to the community. Considerable analysis has been undertaken over the last two years to evaluate the impact of water quality on public health. As described earlier, the city has sought and continues to pursue funding to complete construction of a water transmission line from a new well near Zapadni to the village.

Mental health needs are addressed by the A/PIA counselor who resides in St. Paul and makes visits to St. George. The State of Alaska also provides social worker assistance when required on specific judicial referrals.

### Communications

Communications systems on St. George Island include telephone, television, CB-radio, and VHF-radios, described below.

#### Telephone

Telephone service is available to all residential and commercial customers through Sitka Telephone. Additional service is available through Alascom (commercial users). Many homes on the island have telephones.

#### Television

The community receives two statewide, rural television broadcasts, LearnAlaska and the Statewide Rural Television Satellite Project station. St. George does not have its own local television station.

#### CB and VHF Radios

Prior to 1982 most homes relied on CB radios for local communication. However, with the increased availability of both low cost telephone service and farther ranging VHF radios, CB radios have been replaced as the major form of communication on St. George. VHF radios are capable of receiving and broadcasting to St. Paul. They are used by the public safety staff, volunteers, airport crew, and fishermen.

## Other

The city has recently started operating a supplemental aviation remote weather station and air traffic control radio service at the helipad facility. As mentioned previously, this service will be continued as long as the oil industry continues to utilize the helipad.

## Public Safety

St. George has a volunteer fire department and one VPSO. The volunteer fire department meets infrequently. The VPSO provides police service and maintains fire equipment and hydrants. Although no official search and rescue, emergency medical services, or crash and rescue programs exist, the VPSO coordinates emergency medical efforts and search and rescue operations.

Public safety equipment includes four trucks and fire fighting equipment. Hydrants were installed in the village area about 20 years ago. The firehouse is a two story wood structure built in the 1950s. The first floor houses fire equipment and the upper floor is used for storage of hoses and other supplies. An additional single story fire truck bay was added to the structure in 1983. The facility includes approximately 1,672 square feet and is unoccupied except for maintenance or emergency operations. No plans exist for the immediate expansion of equipment or facilities.

The original jail, a holding cell located on the first floor of the store/city office building, is not secure and therefore is no longer in use. The community is presently without a jail or holding cell and has no plans to construct such facilities as they are not currently warranted. When situations arise, the VPSO contacts the State Trooper in St. Paul who provides assistance and arranges for the transfer of the inmate.

## Education

St. George is part of the PISD. Two teachers provide classroom instruction to the students in kindergarten through the eighth grade, with an average student/teacher ratio of 15 to 1; in addition, two teachers' aides provide classroom assistance. Thirty students were enrolled in the 1984/1985 school

year and 34 students were enrolled in the first quarter of the 1985/1986 school year. Table 6-16 presents St. George school enrollment figures for the past nine years.

The school in St. George was constructed in the 1950s and has been expanded twice, in 1976 and 1982. The school has five classrooms, a principal's office, restrooms, storage area, mechanical room, and multipurpose room. One of the five classrooms has been converted into a special education area and library.

In 1983, PISD pursued funding for educational facility expansion to accommodate youth through the twelfth grade at St. George. However, according to field interviews in 1985, the school board has decided that educational curriculum in St. George will extend only through the eighth grade. This decision stems from residents' belief that students will obtain a broader and better educational experience off-island than would be possible in a small school in St. George. Most students go to Palmer or Wasilla for high school.

#### Summary

Community facilities in St. George adequately meet basic community needs, although a jail is currently lacking. A helipad, weather station, and worker housing were constructed in 1985 as an alternative base for helicopters transporting oil company workers when the St. Paul station is weathered in. The weather station also functions as an airport terminal for the community. Construction of a barber is planned for 1986, an important step in developing the commercial fishing economy in St. George.

The fresh water supply on the island is currently limited due to salt water intrusion into some of the older wells. Plans are underway to tap new aquifers and expand the availability of fresh water. Other utilities, public safety, health, and education needs appear to be adequately met.

TABLE 6-16: ST. GEORGE SCHOOL ENROLLMENT, 1978/1 979- 1985/ 1986

<u>YEAR</u>	Grades <u>K-6</u>	Grades <u>7-8</u>	<u>Total</u>
1977/1978	25	11	36
1978/1979	22	7	29
1979/1980	26	6	32
1980/1981	24	11	35
1981/1982	21	6	17
1982/1983	25	4	29
1983/1984	<b>23</b>	5	28
- 1984/1985	26	4	30
1985/1986 <sup>(1)</sup>	27	7	34

1. 1985/1986 data reflect first quarter enrollment only.

- Sources: Pribilof Islands School District (1983), Capital Improvement Program.  
 - Alaska Department of Education, personal communication (1986).  
 Field interviews (1985).

## SOCIAL ORGANIZATION

The following description of St. George **sociocultural** systems is divided into three sections: social organization (including kinship, voluntary organizations, and other forms of **social** organization), domestic economic structures (including household economic patterns and subsistence), and local political systems. As stated in Chapter II as well as in the Akutan and St. Paul chapters, these discussions are designed to provide a **sociocultural** context for the interpretation of the preceding socioeconomic data. Such a synthesis of social and economic data is a specific directive of MMS.

St. George families have been subjected to many of the same forces of change as residents of St. Paul island. Important historical changes that shaped current **sociocultural** patterns include relocation from Aleutian communities by Russians in the late 1700s, physical isolation following relocation, and relocation to southeast Alaska during **World War II**. The first wave of relocations to St. George **Island** occurred sometime after 1787, at which time three settlements were founded on the island. Successive relocations until 1825 brought additional inhabitants from both Atka and **Unalaska**. The three villages on St. George Island were consolidated into a **single** community at the present location of St. George village, probably in the 1830s. In addition, NMFS forcefully relocated many St. George families to St. Paul in the 1960s (Jones 1981; field interviews 1985). Each of these relocations affected family and community structure, disrupted traditional kinship practices, and influenced traditional political institutions in the community; many of these influences are still evident today.

### Kinship

#### Household Structures

According to the 1985 St. George city census, the 47 households in the community range in size from one to 19 occupants with an average household size of 3.8. The 1985 city census does not provide information on kinship affiliations within households, so it is impossible to extract an analysis of household structure from this material. However, field data suggest that a

majority of these households consisted of nuclear families. The remaining households consisted of extended families and, in some cases, fragments of nuclear or extended families (see St. Paul: Kinship for a definition of household types).

In addition to key informant interviews, in depth, systematic, informal interviews were conducted in six households during field investigations in St. George. Of these six households, three contained nuclear families, two contained extended families, and one contained a nuclear fragment. Although the **small** sample cannot be generalized to the entire community, no data suggest that any of the sample households are unique or unrepresentative. Indeed the sample illustrates various household structures and is representative of the types of social organization found in St. George households. The relative frequency of each household type in St. George is, however, unknown.

Brief family profiles of the six sample households are presented below to describe the household structure and family origins. The birth places are presented to demonstrate family ties to other communities in or beyond the **Aleutian/Pribilof** region.

PROFILE ONE: This nuclear household has three members: a married couple and their daughter. All household members as well as the couple's parents and grandparents were born and raised in St. George. However, the wife's family (including the wife) moved to St. Paul in the 1960s along with many families who were encouraged to move during a NMFS attempt to consolidate residents and fur seal operations on one island. The wife returned to St. George upon marriage.

PROFILE TWO: This household is an extended family consisting of seven people: a married couple, their three children, and the husband's mother and brother. All members of the household, as well as the married couple's parents and grandparents, were born and raised in St. George except for the husband's maternal grandfather who was born and raised in **Akutan**.

PROFILE THREE: This nuclear household consists of a married couple and three children. Both spouses were born and raised in St. George as were all of their parents and grandparents except the wife's father and the



husband's maternal grandfather. These latter individuals were born and raised outside the state and in Atka, respectively.

PROFILE FOUR: This fragment household consists of an elder female and her son. The son has never been married and has no children. He and his mother were both born and raised in St. George, as were his father and his grandparents (on both sides).

PROFILE FIVE: This three-person nuclear family is comprised of a married couple and their adolescent son, all of whom were born and raised in St. George. The wife's father and paternal grandparents were also born and raised in St. George, while her mother came from St. Paul. The husband's parents and two of his grandparents were born and raised in St. George, while his other grandparents were born and raised in Atka and Unga (in the Aleutian Islands).

PROFILE SIX: This household is composed of an extended family of six people. The household includes a married couple, their two adolescent children, and their adult daughter and her child. The husband was born in St. Paul but his family moved back to St. George, their original home, soon after his birth. Otherwise, all members of the family, the couple's parents, and their grandparents were born and raised in St. George.

#### Household Functions

The current composition of St. George households is the result of contemporary circumstances and historical influences that have affected both Pribilof communities as well as other indigenous Alaskan cultures. Traditionally, in many rural Native villages, large extended families commonly lived under a single roof and functioned as a single family and economic unit; such living arrangements are now rarer. Average household size has declined throughout rural Alaska and in St. George due to changes in traditional kinship patterns, changes in both the number and type of houses available, increased personal mobility, and other factors (Jones 1973, 1980; Orbach and Holmes 1982b).

Subtle shifts in household functions have accompanied the decline in household size resulting in a diversity of household structures and production strategies. Men and adolescent boys continue to work outside the home and take great pride in their roles as providers (field interviews 1985). However, women have increasingly entered the work place despite their traditional role in the home raising children and processing food provided by the men. Although this is one visible trend, no types of household routine have emerged as dominant in St. George. Changes in residence patterns, employment patterns, and costs of living have resulted in a diversity of housing patterns and production strategies in St. George.

Data from the St. George **sample** further suggest that households combine income from a variety of sources, many of which are seasonal or temporary. Some families are able to minimize the effects of economic uncertainty by pooling income from several sources and among several households. In this fashion, traditional family structures (such as extended families) can adapt to modern economic realities in a way that uses cultural supports that already exist in St. George. Many households, particularly those with nuclear families, rely on at least one sizeable monthly paycheck augmented with additional temporary sources of income, though this pattern is not universal. These economic issues are treated in more depth under Domestic Economic Structures.

#### Kinship Linkages Outside St. George

St. George residents are clearly isolated in terms of lineal kin relations to populations outside the **Pribilofs**. The vast majority of sampled residents, their parents, and grandparents were born and raised in St. George, with St. Paul in distant second place. This pattern is a reflection of the enforced immobility of the island population for over a century. Although it is possible that traditional kinship patterns might have encouraged relatively closed social boundaries, external events and forces overwhelmed traditional patterns.

Unga, Atka, and **Akutan** were also mentioned as birthplaces of antecedents. Although the mention of Atka raises the interesting possibility of continued kinship affiliations with a parent population of the **Pribilovians**, this suggestion is impossible to assess at the present time.

Interactions between relatives (including gift giving, distribution of food, ceremonial participation, visiting, and economic assistance) occur primarily within St. George and, to a lesser degree, between St. George and St. Paul. Family interactions do occur outside of **the Pribilofs** (primarily with relatives in **Akutan**, Anchorage, and Seattle). Off-island interactions are far less frequent than interactions within St. George. It is noteworthy that physical isolation has not completely closed St. George families from recurrent links to people far from home.

### Voluntary Organizations

Relatively few voluntary organizations currently operate in St. George, and most of those that now exist operate at a rudimentary level (i.e., either sporadically or with limited membership activity). An inventory of these organizations is followed by information on each organization.

- o Russian Orthodox Sisterhood
- o Orthodox Church Council
- o Orthodox Church Committee
- o volunteer fire department
- o **mutual** assistance partnerships
- o trading partnerships
- o Recreation **Club** (possibly emergent under the auspices of the St. George IRA)
- o Boy Scouts (now defunct)

**Other** voluntary organizations exist which are quite active (e.g., **Tanaq**, the city council, and the St. **George IRA** Council). However, these organizations are part of the St. George political framework and are discussed as such under Local Political Organizations.

The Russian Orthodox Sisterhood was revitalized about 15 years ago following a lull in its activity. As in St. Paul, the purpose of the Sisterhood is to raise funds for the church when donations are insufficient or when immediate financial needs arise. These funds are raised through sales of baked goods after mass, usually in the winter when seasonal incomes are most apt to be depleted among the congregation and other donations (e.g., offerings during mass) decline. No other activities, such as charity work or fund-raising for other purposes, are or have been carried out by the Sisterhood. Even though it

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has been reactivated, its level of activity is low and months may pass between membership meetings. The membership has fluctuated from a few to over one dozen women.  
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The Church Council and Church Committee are directly involved with church operations, but meet less often than the Sisterhood and have been less active over the long term. The Church Council is a planning and procurement body, and helps **plan** events such as marriages and order supplies for both routine and special functions. The Church Committee is a volunteer work force responsible for assistance in church upkeep and repairs. Both groups are known to have been in existence since 1936, but may have started earlier. The low levels of activity associated with the church organizations do not connote apathy. The level of activity of these organizations appears sufficient given the goals to which the organizations are devoted and the participation levels of the congregation at large. For example, donations during times of need may exceed \$100 per attendee at mass; hence, organized fund-raising may be only an intermittent requirement.

The volunteer fire department in St. George has not been particularly active, with few meetings and a fluctuating membership, and has no clear functions aside from fire fighting. The VPSO, however, speculated that the volunteer fire department may become more active in the future as it assumes responsibility for rescue operations following completion of the **Zapadni Harbor** project. The city possesses good fire fighting facilities (described previously under Community Facilities and Services). Fortunately, these facilities have rarely been necessary.

● Mutual assistance and trading partnerships in St. George are similar to those described in St. Paul (see St. Paul Voluntary organizations). These partnerships are the only voluntary associations the study team recorded in St. George that were both active and non-formal. As in St. Paul, the mutual assistance partnerships recorded in St. George were all between males and consisted of two (or less typically, three or four) men who share food and capital, lend technical assistance, hunt and fish together, and provide **general** mutual support. These partnerships are generally long-standing and noted for their durability and multipurpose character. Since the partners are also  
-

members of their respective kinship groups which have similar functions, food, assistance, and capital can move along kinship and partnership lines simultaneously. One elder in St. George explains,

People get their food through all kinds of sharing. Take a sea lion, you need four men. Everyone gets shares, equal or near equal shares. Then those men return and all four share their meat with others. Pretty soon a **lot of** people have meat.

Trading partners are those with whom food is exchanged. Under an informal contractual agreement the partners conduct value-for-value trades. Normally, St. George residents traded marine resources such as halibut and seal for foods that were expensive or unavailable in St. George, such as fresh produce, salmon, or caribou. For example, a St. George resident made arrangements to receive fresh fruit from a friend in Cold Bay in return for halibut. The most frequently recorded location for trade of St. George foods was Cold Bay, followed by King Cove, **Unalaska**, and **Akutan**. Although trading partners may often be **close** friends or relatives, the relationship does not color the contractual quality of the trade.

A recreation club is in the planning stages as of summer 1985. This club would form one facet of an evolving program of activities for local residents sponsored by the St. George IRA. The specific activities and memberships of this club are unknown. A Boy Scout troop existed in St. George for about 10 years, but it **folded** in the 1960s. No information about its membership or the cause of its collapse is available.

In summary, it is evident from the **small number** of voluntary organizations and **low level** of activity that key **social** priorities are being addressed by other means at this time. The exceptions are the two informal voluntary organizations (mutual assistance and trading partnerships) that serve household goals by broadening the base of the household economy. A great deal of energy is also devoted to the activities of **the** political organizations, which exercise authority and responsibility in a wide variety of political, administrative, social, and cultural arenas (see Political Systems).

### Other Social Organizations in St. George

Two additional forms of social organization stand out as especially important components of the St. George **sociocultural** system: the Russian Orthodox Church and the sealing profession. With the exception of kinship, these two institutions are the most important and pervasive **sociocultural** influences in both **Pribilof** communities. Although participation in these organizations is voluntary, virtually all St. George residents are affected at some level by both the Russian Orthodox Church and the fur seal harvest.

#### The Russian Orthodox Church

The Russian Orthodox Church is the only form of organized religion in St. George. Virtually every **Aleut** member of the community is a member of the church, although actual participation in church services and events varies considerably among St. George residents. Church leaders are aware that attendance fluctuates, but also understand the numerous extenuating circumstances that may prevent or decrease attendance, such as commercial fishing periods, overtime construction work, and time required for subsistence hunting and fishing.

The church functions solely as a spiritual institution in St. George. It engages in no charity work, no pastoral counseling, no youth activities, and no deeds beyond those strictly associated with preservation of the Orthodox creed. Despite the limited functions of the church, the Russian Orthodox influence is evident throughout all aspects of St. George society. All special rites of passage (baptisms, marriages, and funerals) are celebrated under the auspices of the church. Homes, public buildings, boats, and other fishing equipment are blessed by the church during special ceremonies and icons are found in virtually all homes and public offices (Orbach and Holmes 1982 b).

Although fluctuating participation in church activities has been the result of many factors, two recent events caused by external intervention since the new church was built in 1936 have contributed to declines in attendance. First, at the coercive urging of NMFS, a number of St. George families were moved to St. Paul in the 1960s in the last institutionalized resettlement scheme. This

event removed an important portion of the "core" St. George church members. Second, the lack of educational facilities beyond the eighth grade required all students to leave St. George (usually to **Palmer-Wasilla-Willow** area schools) at a crucial point in their church socialization.

In summary, **public** support for the church in St. George is strong but often understated. Various church organizations (i.e., the Russian Orthodox Sisterhood, the Church Council, and the Church Committee) may be relatively inactive precisely because the church membership as a whole generously underwrites church needs. Family donations in time of special need (for instance, when structural repairs are required) may exceed \$100 and have reached \$500. The Russian Orthodox Church is one of the oldest and most pervasive social institutions in St. George and, for the most part, community members are knowledgeable about church affairs and supportive of church activities and functions.

#### The Sealing Profession

Sealing activities on St. George have been a subsistence operation since 1972. Prior to this time, sealing was a commercial activity and the commercial model, with its **union-** or guild-like administration and hierarchy, persists to this day. For good reason, the **St. George Aleuts still view themselves as professional hunters.** As in St. Paul, the St. George subsistence fur seal harvest is a **blend** of family **level** food production and complex bureaucratic administration. Administration of the harvest has been assumed by the St. George IRA. Although the harvest now may have greater cultural symbolism due to **local** administration by a tribal authority and an emphasis on subsistence, it remains an administered hunt manifesting strong continuity with past practices. The formal aspects of the harvest are also evident in the division of the harvest, for instance. The IRA canvassed the community in order to estimate optimal harvest levels and to develop a division scheme that would satisfy the perceived meat needs of local households. These expressed needs formed a rough basis for the later distribution of the meat.

In the past, a hierarchy of worker **roles** was maintained in the seal harvest that followed (and in part determined) a broader hierarchy of leadership and

respect. In current St. George sealing activities, this hierarchy has become less distinct, at least in practice. For example, in the 1985 harvest, an elder who usually served as a **leadman** or foreman took charge as an expert sticker (a position considered lower in rank). In doing so, he deviated from the traditional hierarchy of workers. In other cases, once distinct roles appear to have merged. For example, although the foreman and sealing **leadman** are normally distinct roles, it is our understanding that these roles are carried out by the same person. In addition, “stunners” and “pod-cutters” are distinct work groups. However, it was unclear during the 1985 harvest whether lower ranked stunners served as pod-cutters or whether some pod-cutters helped with stunning. Finally, many of the remaining worker roles, such as barman, watchman, carcass crew, sharpener, and meat pickers, were comprised of an indistinct collection of other crew and active onlookers who stepped in to lend a hand as required.

● A relatively low harvest in 1985 (see Subsistence Uses) caused great concern among St. George residents, who already perceived the existing quotas as low. Ironically, however, the IRA council faced difficulties recruiting work crews to carry out the harvest. Due to a surplus of summer jobs on St. George with relatively high rates of pay, the IRA found itself competing with other local institutions (**Tanaq** and the city) for workers who were sponsoring major construction efforts, primarily at the **Zapadni** Harbor project. Although all employers offered leave time for the harvest, recruitment remained problematic for the IRA.

The practice of paying workers to conduct a subsistence harvest is unique to the **Pribilof** Islands and has persisted from past commercial harvests. St. George residents **still** perceive sealing as an occupation and expect to be paid for their work. The St. George IRA, as the local entity in charge of the harvest, must offer competitive wages in order to recruit workers for the seal harvest. Nonetheless, local residents retain strong cultural ties to the harvest and sealing is still perceived as a birthright of the **Pribilof** Island Aleut.



## Values Associated With Social Organization

As in St. Paul, traditional **Aleut** values continue to influence individuals, families, and other forms of social organization in St. George. The values of generosity, cooperation, endurance, bravery, self-sufficiency, excellence of performance, and humility summarize the ethos of **Aleut** society (Louis Berger and Associates 1983b) and still provide a code of conduct that is well suited to **Aleut** institutions, the harsh environment, and uncertain economic conditions. For example, the household types described above are well suited to the uncertain conditions to which families must adapt. These households are sustained by cooperation and generosity of all family members. Other values will continue to be adaptive as St. George develops its bottomfisheries. Endurance, bravery, and excellence of performance, values generated out of the **Aleuts'** adaptation to an unforgiving environment, represent traditional values that are still vital for successful adaptation to the contemporary economy. In summary, many traditional **Aleut values** are still evident and influential in modern St. George society. These values continue to guide St. George residents' behavior and institutional policy as the community moves through , changing social and economic conditions.

### Summary

St. George **Aleuts** have been insulated from most Aleutian and mainland populations by historic circumstances, administrative policy, and geographic isolation for about 120 years. These insulating factors diminished after World War II, but their impacts on St. George social organization are still evident. St. George populations have been **highly endogamous** and stable through time. Most residents interviewed during fieldwork and their parents and grandparents were born and raised in the **Pribilofs**. Nuclear and extended households are the main household types, although neither is clearly dominant.

Kinship relations and traditional bonds established through mutual assistance and exchange networks remain strong in St. George. Historic isolation has not prevented or severed links with kin and traditional partners in St. Paul or in other communities in the Aleutians, mainland Alaskan, and out-of-state locations. Widely recognized and patterned food exchanges link both **Pribilof**

communities with Cold Bay, Anchorage, King Cove, **Unalaska**, and Akutan. Exchange and sharing networks are both extensive and intensive, and serve to reaffirm links with friends and kin and provide St. George residents with access to desired foods that are unavailable locally. These exchange networks and social relations have numerous economic and non-economic functions that stabilize households, minimize some economic disparities, enhance household economic production, and uphold traditional **Aleut** values.

The Russian Orthodox Church and the sealing profession are significant **sociocultural** institutions in St. George. The Russian Orthodox Church is a pervasive influence on the lives of **all** St. George residents. All important ceremonies and many secular events are associated with the church. The sealing profession is perceived as a birthright of **Aleuts** that merges important cultural and economic needs. Nearly all **Aleuts** in St. George and St. Paul identify themselves with both of these organizations.

#### DOMESTIC ECONOMIC STRUCTURES

This section is concerned with household economic patterns in St. George. The discussion of domestic economies is divided into four topics: patterns of economic opportunity, patterns of household economy, subsistence dependence (including subsistence use patterns, changes in subsistence patterns, and interrelationships between subsistence and cash economies), and values associated with economic practices in St. George. Community and regional economies are discussed only in terms of economic opportunities for domestic households.

##### Patterns of Economic Opportunity

St. George is currently experiencing unprecedented changes in the local economy that stem from the 1983 NMFS withdrawal and subsequent attempts to generate new economic opportunities based on a diversified economy. Two economic consequences of this transition have had pronounced effects on domestic economies. First, as an initial step toward a diversified economy, St. George's infrastructure is being developed. This recent high level of activity

has generated an unprecedented employment boom as residents participate in this development. Second, when NMFS withdrew from the island, the City of St. George assumed many of services that had previously been supplied and subsidized by the federal government. This transfer of responsibility was accompanied by substantial increases in the costs of various services which were passed on to St. George residents. In addition, many non-economic factors influence the way families assess economic opportunities. These non-economic factors include proximity to friends and family that might be affected by job placements, access to leisure time, compatibility of economic developments with social values (such as local control), and other personal and social factors. These topics are considered below.

### Income Opportunities

In 1980, a total of 54 wage jobs were available in St. George, including 24 full-time and 30 part-time positions. The vast majority of these jobs (12 full-time and 29 part-time) were NMFS positions. The second largest employer was the St. George school, with three employees (Gorsuch and Hull 1983 b). By 1985, the proportional distribution of jobs by employer had shifted and the proportion of full-time jobs in St. George had increased dramatically although the total number of jobs showed relatively little change.

As discussed above (see Local Economy), 58 people are currently employed in St. George for a total of 40.75 FTE. Due to the withdrawal of NMFS from St. George, Tanaq Corporation (with 20 employees or 8 FTE) and the City of St. George (with 13 employees or 13 FTE) are the largest employers. Other prominent employers include the school (five employees, 4.25 FTE) and Brice Construction (eight employees, 8 FTE). Hence, although NMFS no longer employs any St. George residents, public organizations (primarily the city and the school) have become more important employers in the community.

These employment figures represent the number of jobs in St. George; in some cases a single individual held more than one of these jobs. Therefore, the number of people with paid employment during 1980 and 1985 was less than the total number of positions. For instance, 18 of the 29 NMFS part-time positions in 1980 were seining jobs, many of which were held by people with other forms

of part-time or full-time employment. Similarly, people who held full-time jobs with the school would be available for seasonal work during the summer. This pattern applies to St. George commercial fishermen, as well; the majority of St. George skippers and their crew hold other wage jobs when not fishing. Finally, the practice of rotating positions on the sealing crew, for **example**, allowed significantly more than the 11 people necessary to be employed at some time during the harvest.

Commercial bottomfisheries also provided income opportunities both in fishing and processing. Thirty St. George residents are involved in commercial fishing (including both permit holders and crew), **all** of whom fished during 1985. The majority of these people also held other full-time, part-time, or seasonal jobs during other times of the year. The **Tanaq** Corporation owns and manages the fish processing operation, which provided 23 full-time seasonal jobs (matched by 17 full-time jobs underwritten by the City of St. George) when the operation began in 1982. The plant now provides only two full-time permanent positions and 10 to 12 part-time seasonal jobs. Wages are also modest, ranging from \$6.50 per hour for beginning employees to \$8.00 per hour for experienced workers, and \$12.00 per hour for the plant manager.

Although lower income St. George residents have access to numerous sources of transfer payments, their use of transfer income is very low. Monthly records indicate that there were no recipients of Old Age Assistance, Aid to the Permanently Disabled, or Aid to the Blind in St. George between June 1984 and August 1985. The number of AFDC cases was also low over this period. AFDC payments ranged from \$617 (for one case) to \$2,784 (for three cases) per month for the entire community. Similarly, the number of Food Stamp cases reached a peak of two cases totaling \$1,709 in January 1985; the modal caseload for food stamps was zero over this period. There was a single combined food stamp and AFDC disbursement (for a maximum value of \$1,149 for the entire community) during five of the first six months of the reporting period, but the incidence of combined cases disappeared after November 1984. The maximum combined value of all transfer payments was \$3,015 during the peak month of August 1984.

Due primarily to the employment boom of 1985 in St. George, there is a uniform perception that access to jobs was not shaped by employer preference or bias of

any sort. As one person stated, "Anyone who wants to work can work". However, field investigations in St. George revealed that few people interviewed were engaged in the jobs they most desired. Current and preferred jobs for St. George respondents are presented below:

**RESPONDENT ONE:**

Current work: seasonal construction.  
Preferred work: administration/planning.

**RESPONDENT TWO:**

Current work: administration and commercial fishing.  
Preferred work: heavy equipment operation.

**RESPONDENT THREE:**

Current work: administration and commercial fishing.  
Preferred work: mechanic.

**RESPONDENT FOUR:**

Current work: **civil** service.  
Preferred work: carpentry.

**RESPONDENT FIVE:**

Current work: construction.  
Preferred work: commercial fishing.

**RESPONDENT SIX:**

Current work: commercial fishing and construction.  
Preferred work: commercial fishing.

In summary, opportunity patterns on St. George are varied **and** unstable with the exception of a few full-time permanent wage positions. Even these positions show variability, however, since jobs are rotated between **people** and some individuals with full-time jobs seek preferred seasonal and part-time opportunities as they arise. The timing of seasonal opportunities, such as sealing, commercial fishing, and construction, is frequently a source of conflict for people who rely on temporary forms of employment. Even the transfer income patterns reveal these characteristics, since they too are unstable. Although there is at least one job for each household on a pro rata basis, it is apparent that opportunities are unequally distributed since some people **fill** several seasonal or part-time positions. This situation has certain positive benefits, however, as those households can generate income from several potentially unstable sources. Finally, many of the St. George residents interviewed were not currently employed in their occupation of

choice. Despite the employment boom, residents' occupation choices **remain** relatively limited.

#### Income Conflicts and Income Needs

Despite these limitations, St. George residents are faced with some choices in job opportunities and between wage employment and other activities. By making these choices, people often are forced to decide between activities of varying social, cultural, and economic value. Although the recent expansion in economic opportunities is viewed by most residents as a positive aspect of local development, the availability of jobs has also forced people to make hard choices between economically lucrative opportunities and culturally valued opportunities. The difficulty faced by the St. George IRA Council in recruiting workers for the 1985 seal harvest is an example of how these choices can affect the community.

Besides sealing, other subsistence activities also present conflicts in timing, allocation of resources, and participation when coinciding with other economic activities. Fortunately, in the **Pribilof** Islands these conflicts are mitigated by the merging of some subsistence and commercial activities. As in St. Paul, for example, fur seal meat is harvested for subsistence purposes under the auspices of a wage activity, and residents take halibut for home use during commercial fishing seasons. In addition, St. George employers accommodate workers' desires for time off to pursue subsistence and other activities with liberal leave policies. City of St. George, Tanaq, and IRA employees use annual leave first and then take time off without pay to pursue these other valued activities. However, employers must consider the NMFS retirement provision that requires **ex-NMFS** employees to work the equivalent of six months per year in order to remain eligible for federal retirement benefits. In these cases, employers are cautious about granting too much leave time in order to keep employees within the six month limit.

Other impediments to subsistence and/or work force participation exist also, such as insufficient income or behavioral problems. For example, some families lack the financial resources to purchase the equipment, fuel, and ammunition necessary to participate in subsistence activities. Although the abundant

income opportunities in St. George have removed some of these financial constraints, some families remain unable to afford these activities and must rely on distribution and sharing networks for subsistence foods.

Non-adaptive behavior (such as alcohol abuse) and background (such as insufficient education) can also **limit** one's economic opportunities. Health and **public** safety officials in St. George indicated that there are currently no significant behavioral problems that influence job performance or job access. St. George residents interviewed generally agree with this observation. One resident states: "There aren't many problems. Maybe one **in** one week, then it settles down for weeks. Just petty stuff, if that. It's **really** good for a wet town." Educational barriers, however, do exist. Educational attainment levels in St. George are generally low (see Education and Occupational Skills). In 1980, among St. George residents age 25 and over, 50 percent had completed only an elementary education, compared with 13.6% in the **census** division as a whole and 0.04 percent in Anchorage. Similarly, **only** 8.8 percent had completed four years of college, compared with 15.4 percent in the census division as a whole and 24 percent in Anchorage (U.S. Department of **Commerce**, Bureau of Census 1982c). Although detailed analysis of **the** relationship between education and employment was beyond the scope of the **study**, low educational attainment likely inhibits access to some economic opportunities for many St. George residents. One institutional leader who spoke **about** this problem noted, "Training has become a major focus of our activities, and we build it into our programs. We are learning **to** be self-sufficient. We are used to hand-me-downs from St. Paul and NMFS, and now that is changing."

#### Patterns of Household Economy

Two factors should be considered in an analysis of household economies. First, household economic arrangements (i.e., the levels of household income and expenses) can be analyzed to determine income and expense balances at the household level. Second, household economic goals, levels of satisfaction, and the potential for continued satisfaction (or dissatisfaction) provide insight into the relation between actual and expected economic well-being. These two factors are addressed below.

## Household Economic Arrangements

The cost of living in St. George has changed dramatically in recent years. The increased costs have primarily been the result of the transfer of community services from NMFS to local entities combined with the concurrent loss of subsidies that had artificially deflated costs for imported goods. These increased costs have, for the most part, been passed on to St. George households.

Income and expenditure data for St. George in 1979 indicated that less than half (44.4 percent) of household income was actually spent on standard household expenses, including housing, electricity, fuel oil, refuse disposal, water, gasoline, groceries, and other household items (Gorsuch and Hull 1983 b). By 1985, these fixed household expenses had grown to an average of 79 percent of household income in the six sample households in St. George. While not necessarily applicable to the community as a whole, this information and the following household expenditure profiles will provide a context for interpreting community level income and expenditure data for St. George (see Income and Expenditures). Percentage estimates provided in the household profiles below may not total 100 percent because other categories, such as savings, may exist and because informants provided approximate expenditure information.

### PROFILE 1: Approximate annual household income: \$15,000

Annual Expenses (as a percent of **total** income):

Housing - 0%	Groceries - 60%
Electricity - 8%	Fuel Oil - 23%
Household items - 4%	Vehicle - 0%
Gasoline - 0%	Clothing - 3%
Travel - 0%	Entertainment - 0%
Subsistence - 0%	Commercial fishing - 0%

### PROFILE 2: Approximate annual household income: \$34,000

Annual Expenses (as a percent of total income):

Housing - 5%	Groceries - 15%
Electricity - 150/0	Fuel Oil - 20%
Household items - 5%	Vehicle - 5%
Gasoline - 5%	Clothing - 5%
Travel - 0%	Entertainment - 0%
Subsistence - 10%	Commercial fishing - 15%



PROFILE 3: Approximate annual household income: \$39,000

Annual Expenses (as a percent of total income):

Housing - 5% (upkeep)	Groceries - 30%
Electricity - 15%	Fuel Oil - 30%
Household items - 2 %	Vehicle - 5%
Gasoline - 5%	Clothing - 3%
Travel - 1%	Entertainment - 1%
Subsistence . 1%	Commercial fishing - 10%

PROFILE 4: Approximate annual household income: \$22,000

Annual Expenses (as a percent of total income):

Housing - 1-2% (upkeep)	Groceries - 35%
Electricity - 15%	Fuel Oil - 30%
Household items - 2%	Vehicle - 5%
Gasoline - 2-3%	Clothing - 5%
Travel - 2-4%	Entertainment - 1 %
Subsistence - 0%	Commercial fishing - 0%

PROFILE 5: Approximate annual household income: \$27,000

Annual Expenses (as a percent of total income):

Housing - 1-2% (upkeep)	Groceries - 30%
Electricity - 10%	Fuel Oil - 30%
Household items - 4%	Vehicle - 2-3%
Gasoline - 1 -2-4%	Clothing - 5%
Travel - 0%	Entertainment - 0%
Subsistence - 10%	Commercial fishing - 0%

PROFILE 6: Approximate annual household income: \$30,000

Annual Expenses (as a percent of total income):

Housing - 1-2% (upkeep)	Groceries - 25-30%
Electricity - 10%	Fuel Oil - 30%
Household items - 5-10%	Vehicle - 0%
Gasoline - 0%	Clothing - 5%
Travel - 0%	Entertainment - 1-2%
Subsistence - 10%	Commercial fishing - 10- 15%

In 1979, the average household expenditures (by percentage) for fuel oil and electricity were 4.3 percent and 1.6 percent respectively (Gorsuch and Hull 1983 b). As the 1985 profiles show, at least some St. George households now devote a far greater proportion of their incomes to these utility costs. The highest proportional expense in 1979 was groceries at 28.2 percent; in 1985, groceries comprised an average of 33 percent of the annual income among sample households in St. George.

Travel expenses were uniformly low among the St. George households sampled. These estimates, however, tend to understate the actual amount of travel to St. Paul and to the mainland. Informants frequently inquired whether or not business travel was included under this household category (which it was not). Upon further investigation, it appears that local and regional institutions underwrite a great deal of transportation for business purposes that may serve, in part, as personal travel.

In summary, none of the case households enjoyed a significant income surplus according to interview data. Fixed household expenses (especially groceries, fuel oil, and electricity), commercial fishing expenses, and subsistence expenses each absorb considerable amounts of annual income. Household income is generally derived from numerous sources including part-time, seasonal, and full-time employment. This income is used to underwrite both essential and culturally valued economic activities.

#### Household Goals and Future Prospects

Rapid changes in the St. George economy (including the NMFS withdrawal, fluctuations in employment levels, and general economic uncertainty) have forced local residents and institutions to alter their perceptions on employment, wages, and economic goals. St. George institutional leaders understand these changes and, as representatives of St. George residents, have instituted employment policies that distribute limited wealth to the greatest number of households. In an unprecedented move that illustrated the realism with which many St. George leaders approached the transition, the City of St. George cut federal scale wages by 30 percent following the NMFS withdrawal. Federal wage levels had reached a new high at the time of the withdrawal that would have been difficult for the city to maintain. The reduction in scale enables the city to employ more people. In addition, because **ex-federal** employees must work six months per year to maintain federal retirement benefits, the pay scale reduction allowed employment levels to remain sufficiently high to allow most **ex-federal** workers to meet this requirement. Finally, the city prefers to rotate temporary jobs as often as possible and therefore limits the number of permanent employees.

Other institutions have **followed** the city's wage setting lead. For example, the IRA pays relatively low salaries: the posted wage for the IRA bingo operator is \$10.00 per hour; a comparable position with the city, an assistant clerk, earns \$8.00 per hour. These wages are more realistic than higher wages in an uncertain climate that may require even more drastic wage cuts in the future. Wages for construction workers, however, have remained high (e.g., \$21.76 per hour for a driver and \$24.00 per hour for a heavy equipment operator).

Local residents interviewed as part of this study are aware that the good fortune provided by the economic boom is temporary. In what could best be described as a **blend** of cautious optimism and hard-headed pragmatism, St. George employers and their employees see that their options are limited and therefore should be used to optimum advantage. There is virtual consensus that commercial fishing should become the foundation of a transformed St. George economy, in concert with marine support services. Oil companies are being courted aggressively in the first stages of marine service marketing, and Tanaq seeks to expand the local fishery operation beyond the confines of a day fishery (see Chapter III, The Fishing Industry and Other Industry). These measures are viewed not **only** as good business practices, **but also** as absolute necessities given the uncertain nature of future economic prospects.

St. George residents' practical nature reasserts itself when individuals report **the** specific benefits they have experienced as a result of the transition. Of six informants, five rated fisheries development as the greatest benefit **while** one rated construction jobs highest. Respondents were **also** uniformly most enthusiastic about the future prospects of commercial fisheries and the harbor project (compared to other development options). St. George people continue to view marine resources as their principal economic asset, as it has been for two centuries.

These economic goals require an ambitious level of effort and financing if they are to be satisfied, and progress is easily frustrated due to the unstable and unpredictable St. George economy. Although St. George is now experiencing an unprecedented employment boom, few, if any, residents appear to view this boom

as anything more than temporary good fortune. The immediate benefits of the boom are greatly appreciated, but most persons correctly perceive the boom as a transitional step toward self-sufficiency which will require both business acumen and commitment to succeed.

### Subsistence Dependence

This discussion consists of information on subsistence uses, including subsistence use patterns, sources of external change in subsistence practices, and interrelationships between subsistence and cash activities in St. George.

### Subsistence Use Patterns

Based on household interviews and a roundtable discussion in St. George with three recognized subsistence experts, subsistence use patterns have not changed significantly since 1981. Veltre and Veltre (1981) provides a comprehensive discussion on subsistence patterns in the Pribilofs and should be consulted for the best available subsistence information. Hence, the subsistence discussion presented below is limited to the 1985 fur seal harvest and selected details from the household and roundtable discussions.

The 1985 St. George fur seal harvest was 329 animals totaling approximately 9,048 pounds of meat (based on the NMFS estimate of an average of 27.5 pounds per animal). This harvest was 21 animals less than the 1984 harvest due to an apparent six percent reduction in herd size. The harvest quota is determined by NMFS. The harvest occurred twice weekly over a period of three and a half weeks with approximately 50 seals harvested during each harvest session. In addition, St. George residents requested 1,600 seals from St. Paul in 1985 to supplement their subsistence harvest. They actually received an estimated 18,000 pounds of seal meat, approximately 10,500 pounds of which spoiled. The 7,500 pounds of unspoiled seal meat is the equivalent of about 273 seals based on an average of 27.5 pounds of dressed meat per seal (Zimmerman and Letcher 1985). In the absence of any other protein sources, IRA representatives indicated that the per capita seal requirement in St. George would be between 2.2 and 2.7 pounds per day, or an idealized annual need of 3,900 seals for local consumption.

Local informants estimated that the average St. George family received between 20 percent and 40 percent of dietary protein from subsistence resources, and most families generally eat some subsistence food daily. During the summer, most families eat seal meat about four times per week according to local subsistence experts. The relative amounts of different subsistence resources consumed by St. George residents varies considerably throughout the year. However, most informants agreed that halibut is probably the most heavily used local food on an annual basis.

Sharing and distribution of subsistence foods is difficult to track because the exchanges are informal. Local residents indicated more subsistence food is sent to Anchorage from St. George than any other off-island destination. Other recognized exchange patterns included: halibut for salmon from Cold Bay, King Cove or Sand Point; seal meat for crab from King Cove or Sand Point; and salted flipper for salmon from Akutan. Subsistence experts concluded that the subsistence foods most valued on the basis of taste preference were kittiwakes and salted seal flipper (although many young people no longer eat the latter). Kittiwakes are rarely traded or shared, whereas salted seal flipper is both traded and shared.

#### Induced Changes in Subsistence Patterns

Local residents identified two important sources of induced change to subsistence use patterns; both are forms of external control through regulatory means. First, establishment of fur seal harvest quotas was viewed as a significant form of external intervention on local subsistence and was a source of frustration for many St. George residents. Most informants noted, however, that the issue was far more pressing for St. Paul residents since the St. George harvest has been a subsistence activity for over ten years. The second form of external control identified by local residents was regulation of the halibut harvest through a quota system. Although the halibut harvest is primarily a commercial activity, significant quantities of halibut are used for subsistence purposes. St. George fishermen perceived regulation of this fishery in terms of its impact on both commercial and subsistence halibut harvests.

Other sources of change to subsistence activities were viewed primarily in technological terms by St. George discussants. For example, several informants drew attention to the increased mobility provided by modern boats with powerful engines. As one fisherman noted, “You can go farther and faster” if you are able to pay for the necessary capital goods (i.e., boats and motors) and gasoline. He concluded that subsistence strategies have remained the same as before: due to high costs, one must be just as choosy about destinations and potential gains and just as cautious about weather and natural constraints. Better equipment can take a fisherman much farther from home than before, however; if the weather deteriorates, he is farther from shelter than he would have otherwise been. Another individual indicated that current employment levels and wage increases were critical for financing subsistence harvests. Many residents lack the hunting and maritime skills possessed by their parents and grandparents. They make up for these deficits, in part, by using a more capital intensive harvest strategy.

#### Interrelationship Between Cash and Subsistence

Numerous interrelationships between cash and subsistence have already been discussed including the relationship between household structure, economic roles (including wage jobs), and subsistence (see Kinship) and competing economic options within the household and strategies that evolve for dealing with these options, such as employer policies for subsistence leave (see Patterns of Economic Opportunity). Additional topics pertaining to the relationship between the cash and subsistence economies on St. George are discussed below.

Subsistence harvest products, especially fur seal meat and halibut, are widely available to many St. George residents at little or no cost. For example, several residents noted that they often announce the availability of halibut over the CB radio when approaching town in their boats, at which time interested parties can meet the boat and take what they need. The availability of these foods may equalize subsistence consumption in St. George and mitigate some fiscal constraints on access to these two key resources. Although there is some question as to how sufficient the fur seal harvest is, it is clear that

nobody does without seal meat if they wish to have some, and all indications are that the distribution is thorough and fair.

As discussed previously, the subsistence “ fur seal harvest on St. George emerged from a federally subsidized commercial hunt. In 1972, the fur seal harvest on St. George was changed from a commercial harvest to a subsistence harvest. Despite this change, the **hunt** retained many characteristics of **the** commercial harvest. One retained aspect was the formalized crew structure (discussed previously under (Other Forms of Social Organization)). Another aspect retained from the commercial harvest was the practice of paying St. George sealers for their work. **The** practice of paying participants in a subsistence harvest is a unique but understandable product of the history of St. George’s fur seal harvest.

Flexible household structures combined with a variety of income generating strategies and long-standing kin obligations provide a hedge on **an** unstable economy and ensure the ability of most households to finance and conduct at least some subsistence practices. Local employers recognize subsistence priorities with a variety of flexible leave arrangements for their employees. The only serious obstacle to flexible job rotation patterns and leave arrangements is the federal stipulation on a six month work duration per year that must be preserved in order to secure federal retirement benefits.

Subsistence hunters and fishermen **on** St. George have increasingly relied on more capital intensive strategies to offset deficits **in** available time and skill level. As one St. George hunter explains, “You don’t really think about [subsistence] expenses. If you want it, you go. Enough people have money for ammo and gear so they can hunt and fish. Things are better now. There was less money before, but they were better hunters too.” Increased reliance on advanced harvest equipment (e.g., aluminum boats, powerful outboards, and rifles) has allowed greater flexibility in harvest strategies and has increased the speed, efficiency, and effectiveness of subsistence hunting and fishing efforts. The capital costs of this new equipment are mitigated, in some cases, by increased involvement in a wage-based economy.

## Values Associated with Economic Practices and Patterns

During field investigations, local residents were asked to identify the greatest threats to their way of life. In St. George, a variety of obstacles inherent in the economic transition emerged as the greatest threats. Specifically, these perceived threats included: competition from outside fishermen in the new bottomfish operations, uncertainty regarding successful completion of the fisheries and harbor projects (which presumes the establishment of a competitive foothold for St. George fishermen), and the future of the fur seal harvest (although St. George residents perceived this to be a more pressing problem for St. Paul residents). Despite substantial differences in household economic arrangements and wherewithal, there was a unanimous perception of uncertainty surrounding the community's ambitious transition plan.

It is not surprising that the status of marine resources upon which the transition plan depends, and the success of these **Aleut** people in achieving a new marine adaptation, are foremost in so many people's minds. Marine resources have been the central focus of **Aleut** economic adaptation for thousands of years. The significance of marine resources goes beyond profits and sustenance to the rich symbolism of the sea and the cultural values that are based on the harvest of marine resources. As is true of all value systems, the **Aleut** environmental ethos provides its own internal rewards and transforms life in a marine environment into an experience that is at once immediate and eternal, since it is shared with one's ancestors as well as one's grandchildren in future generations. These factors add to the sense of fulfillment that accompanies the **Aleut** harvest of food from the sea.

### Summary

Despite a current employment boom in St. George, income opportunities are relatively unstable. Cost of living increases subsequent to the NMFS withdrawal have, in part, negated some of the positive effects of the employment boom. Most employers have reduced wages from inflated federal wage levels in order to keep relatively high numbers of local residents employed. In addition, employers rotate residents among jobs in a manner that distributes



income throughout the community. Subsistence activities are essential elements of many household production strategies and most employers on the island offer leave time to accommodate workers' desires to pursue subsistence activities. Ten to 50 percent of total dietary protein is derived from locally available foods and the most heavily used subsistence resources are halibut and seal. Subsistence activities as well as current and planned economic development continue to focus on the marine environment and extraction of renewable (and in the case of oil, non-renewable) resources. This marine orientation continues to influence Pribilof Aleut values that have persisted in the contemporary Aleut society despite a rapid rate of economic and social change on the island and a history of continual disruption.

### POLITICAL SYSTEMS

This section is concerned with institutions of governance and administration in St. George and the leadership and political values that determine the present forms and objectives of these institutions. Topics considered include the institutions themselves, and the values and perceptions that constitute the political ideologies of both residents and their institutional leadership.

#### Local Political Organizations

Three institutions have significant political power and authority in St. George. These are: the City of St. George municipal government, the St. George Community Council (IRA), and Tanaq Corporation. These three organizations share authority and responsibility for a variety of community services and have all been instrumental in the design and implementation of various aspects of the economic transition plan. The St. George transition plan (Gorsuch and Hull 1983b) contains seven components. These are:

- o Incorporation of the city
- o Oil and gas development
- o Harbor development
- o Fisheries development
- o Tourism
- o Indian Claims Commission disbursements
- o Housing

The City of St. George expected to assume responsibility for the first two components of the plan (incorporation of the city and oil and gas development) and share responsibility with Tanaq for harbor development. During development of the plan, Tanaq expected to take responsibility for fisheries development and tourism. Housing and ICC disbursements were to be handled by the IRA council. These three organizations were envisioned as a tightly coordinated set of joint economic and political authorities under the transition plan.

The actual transition proceeded somewhat differently than the plan anticipated. The city assumed major responsibility for traditional municipal services, including sewer, water, solid waste, power, fuel, airport and road maintenance, and grant funded capital improvements. These capital improvements included the harbor project; thus, Tanaq's joint responsibilities in this area did not develop as planned. Tanaq Corporation's role has been more limited than that envisioned in the original transition plan, concentrated primarily on tourism and fisheries development in addition to a limited number of construction projects in St. George. The role of the IRA Council has included responsibilities for housing and ICC disbursements as planned in addition to expanding to include health, recreation, and other social services.

#### The City of St. George

The community of St. George incorporated as a second-class city in September 1983. A review of transition documents indicates that the evolution of city government was far from gradual. Two months before the Zapadni Harbor staging operations were slated to begin and one month after designs had been finalized, a recipient for the state funds (e.g., a city) had not yet been created (Gorsuch and Hull 1983 b).

These transition documents further reveal that the City of St. George was rapidly ushered into existence by the concerted efforts of Tanaq, the IRA Council, the Alaska Department of Community and Regional Affairs, Aleutian/Pribilof Islands Association, and the Institute of Social and Economic Research officials. The late summer and early fall of 1983 saw a flurry of activity as the city was incorporated. ADCRA funds underwrote the salary for a city administrator who was immediately hired; a planner was hired several

months following incorporation. The city assumed joint responsibilities for transition planning with other St. George institutions. The city **also** assumed specific responsibilities for **Zapadni Harbor**, runway upgrading, skid ramp, concrete pad, planning, and bulk fuel storage projects (**Gorsuch** and **Hull 1983 b**). Ultimately, sufficient funding for the harbor development was not made available until after the 1984 legislative session, and preliminary staging did not begin until December 1984 (in contrast to plans to begin the harbor project in 1983).

As discussed above, the city has been responsible for three aspects of the transition **plan**. One of these responsibilities was assumption of a wide range of typically municipal services from the **NMFS**. These services included:

- o **Fuel** delivery to St. George
- o Fuel delivery within the community
- o Power **supply** and maintenance
- o Lightening and **longshoring**
- 0 Machine shop management
- o Garage management
- o Water, sewer, and solid **waste** services
- o Road and airport maintenance

Many responsibilities assumed by the city from the **NMFS** are “housekeeping” activities that are geared toward maintenance of existing infrastructure rather than toward economic growth. The city recognizes that these previously subsidized “housekeeping” activities require careful management as part of this larger transition scheme. Since utility costs consume **such** a large portion of available household income, and **since** wages may **not** keep pace with inflation as post-transition jobs open up, these services **contribute** to a cost-of-living problem that will require scrutiny **in** the future.

A second category entitled “Oil and Gas Developments” does not yet have a designated responsible agency, but it is highly likely that the city will emerge as the responsible local entity for this activity, possibly in concert with **Tanaq** or the IRA council. This activity probably **would** be based at the **Zapadni Harbor** complex and **would be** comprised of marine support services for **Navarin** and St. George Basin exploration, development, and production activities (**Gorsuch** and **Hull 1983 b**).

The city strategy for economic growth is tied closely to the **Zapadni** Harbor complex and to the commercial fisheries and marine support activities being based there. Although the complex is not yet complete, petroleum development, fishing, and processing companies have already been contacted with proposals for sales and services through the **Zapadni** operation. No commitments have been made on either side, however. Fuel and water will be stocked at the complex, and it is possible that drilling mud and pipe will be stocked there as St. George emerges as a marine support base for petroleum activities. One of three wells is now complete and drawing good quality water, and the remaining wells will be drilled subsequent to aquifer studies that are nearly complete. The water storage goal is 500,000 to 1,000,000 gallons at the harbor, sufficient for marine support sales. The **Zapadni** harbor fuel storage capacity is also expected to be 500,000 to 1,000,000 gallons.

The city assumes that, despite probable fluctuations, the commercial fishery will achieve some measure of stability as early as 1987 and that the local industry will have matured (i.e., be year-round and stable) by 1990. In addition, the city hopes that **Navarin** and St. George Basin activities will have accelerated by 1990 so that marine support jobs become available to complement the fishing industry. If marine support base plans develop according to schedule and oil is extracted from the **Navarin** or St. George Basin, an airport extension and new airport to accommodate large aircraft (e.g., 727s and Hercules transports) at **Zapadni** Harbor are expected to attract additional industrial growth. Depending on growth prospects, shore-based facilities could be leased to industry and the harbor could be dredged and enlarged.

#### St. George Community IRA Council

The St. George Community IRA (Indian Reorganization Act) Council was chartered in 1951 at the same time as the St. Paul IRA, and is governed by a seven person board. The St. George IRA was originally an affiliate of the Aleut Council (a combined IRA representing both **Pribilof** Islands) and coordinated its activities with the St. Paul IRA until 1982. The IRA perceives its operations to be tightly linked to those of the city. For instance, the key responsibilities of the St. George council during the initial transition planning fell into three areas: ICC settlement (“corned beef money”) disbursements and investments;

BIA housing administration; and shared oversight responsibilities for planning with the City of St. George (**Gorsuch** and Hull 1983 **b**). In addition, the IRA was primarily responsible for municipal management negotiations prior to incorporation and formation of the City of St. George (**Gorsuch** and Hull 1983 **b**).

The first two areas of responsibility require administration of funds and programs that derive from federal authorities, hence the IRA role in these activities is self-explanatory. The joint responsibilities with the emergent municipal government for planning established a precedent that continues today since the transition plan is not yet complete. Links between the IRA and Tanaq are less pronounced than links with the city, however. Despite recognition of different spheres of authority on the part of the IRA council and Tanaq, these organizations work together on joint projects when coordination is feasible and profitable. For example, a fisheries training project and tourism program to be jointly administered by both institutions are now in the planning stages.

The Indian Claims Commission settlement fund program represents an ongoing disbursement of cash to St. George adults born before 1982 and investments of community development funds received from the same settlement. The settlement is a reparation for poor federal treatment of Aleuts between 1870 and 1946. The community development funds represent 20 percent of the entire settlement, whereas 80 percent of the settlement, which totals \$8,500,000 for both islands (**Orbach** and **Holmes** 1982 **b**), is distributed directly to Aleut residents. The original personal payments yielded two disbursements per person, one for \$6,000 and the second for \$3,000. However, since these funds earned interest up to the time of distribution, recent payments have approached \$10,000. The 20 percent community development payment was originally \$700,000. Additional interest brought the figure up to \$833,000 by the time the payment was delivered to the IRA. These funds have been invested to yield yearly income in perpetuity to help underwrite community development activities.

Additional IRA activities, either operating or planned for the future, include programs in health care, training, education, community recreation, arts and crafts cottage industry development, elderly care, infrastructure development, and grant procurement. The health care project consists of advocacy for a physician's assistant at the health clinic. This advocacy effort, carried out

with the city, is aimed at encouraging the petroleum industry companies that may use Zapadni Harbor facilities to fund a physician's assistant position at the clinic. Training programs in building maintenance are underway and fisheries training projects are planned. University of Alaska Rural Education and Administration for Native Americans funds support the building maintenance program, and the fisheries assistance program is planned as a joint venture with Tanaq.

The community recreation program consists of a bingo operation, the profits of which are expected to support a video arcade. These recreational facilities are anticipated to provide three community jobs. The arts and crafts cottage industry is another joint venture with Tanaq; fur seal pelts are to be crafted into saleable goods by St. George elders, which will then be sold to tourists through the Tanaq hotel. The elderly care program is still in the planning stages, with the labor portion of the arts and crafts program the only portion operating at the present time. The community infrastructure grant procurement element of the IRA plan consists of grant procurement to underwrite local jobs and build the St. George economic infrastructure. Grants from HUD, A/PIA Training Grant programs, University of Alaska, Department of Education, and ANA are now being researched as part of this procurement element.

The final IRA program is comprised of retail sales through the Community Canteen. The Community Canteen is an outlet for limited dry goods and sundries, commercial fishing tackle and boat supplies, and beer. Local fishermen purchase 30 to 40 percent of their gear through the Canteen, but these sales may increase during 1986 as fishermen retire old gear and recapitalize their fisheries investment. Sales to nonresidents approach five percent of all sales and are not expected to increase unless tourism increases significantly. This program is not now seen as a "growth" program that will create new infrastructure and diversified employment; hence, it is not addressed under the overall IRA development program.

#### Tanaq Corporation

The Tanaq Corporation has played a substantial role in three of the seven major components of the original transition plan. These components are:

- o Fisheries development
- o Tourism
- o Harbor development

The two components of the transition **plan** that **Tanaq** is most involved in are development of St. George fisheries and tourism. All local institutions agree that fisheries development will be a primary element of St. George's transformed economy, and the projects in other areas, such as the Zapadni Harbor complex and joint venture training programs, are related to fisheries development. The initial fisheries plan called for **Tanaq** to purchase 30 fishing craft, 18 of which would be owned by individuals and the remainder leased by individuals from **Tanaq**. In addition, **Tanaq** was to provide funding for a \$1,000,000 fish processing and icing plant and a 94-foot trawler which would operate out of Dutch Harbor under a joint venture agreement with Taiwanese concerns, the Pribilof -Highly Company (Gorsuch and Hull 1983b). The latter plan, however, did not prove feasible due to marketing and capital constraints.

The actual program has been scaled back considerably. Although **Tanaq** did purchase the \$1,000,000 fish plant (completed in two stages in 1983 and 1984), **Tanaq** only purchased ten 20-foot aluminum skiffs. A Japanese interest, Hokuten Trawlers Association, provided some tangible aid such as hair crab pots and a 30-foot Japanese motor launch, but neither are now in use due to dissatisfaction with launch performance and limited hair crab marketing potential. **Tanaq** also owns two bow-pickers which are not presently in use.

The chief concerns voiced by **Tanaq** staff in connection with fisheries development are: first, the effects of unequal competition for halibut and halibut quotas in general; and second, the need for a year-round fishery with large craft. Both concerns are closely related (i.e., the second concern is seen as a solution to the first). St. George fishermen were halted from fishing during early summer 1985, when the 600,000 pound district quota was met. St. George fishermen harvested only 128,000 pounds of the quota, far below local residents expectations. A majority of the quota was harvested by non-local concerns in spite of the fact that non-local boats were required to re-register at Dutch Harbor after each fishing period.

All fishermen contacted during St. George field investigations expressed a desire to move away from the day fishery to a fishery with larger boats that could remain on the fishing grounds to compete on an even footing with outside concerns. Local fishermen also expressed a desire for more "clout" with the IPHC in order to extract beneficial rulings that would equalize what is seen as an unfair struggle with large, heavily capitalized fishing fleets. Although Tanaq is now investigating ways to achieve both objectives, progress appears to be slow and tangible accomplishments in these areas have not yet been reached.

\* The **Tanaq** tourism program has developed a tour package that is now being marketed directly by **Tanaq** staff. Although operations show few profits to date, the package is self-sustaining and is perceived as a predictable source of local employment with modest growth potential rather than a high yield investment. No **Tanaq** subsidy is provided for the seasonal operation of the program, which has direct and indirect benefits through local employment, limited tourist purchases, and provision of groceries through the **Tanaq** store. The evolution of the program has spanned two years, and has included the following activities (**Gorsuch** and Hull 1983 b):

- o Tourism planning and marketing study
- o Hotel staff training
- o Hotel upgrading
- o Van purchase (for tourist airport transport to scenic sites)
- o Business office development
- o Staffing
- o Ground tour package development
- o Promotion

The hotel can accommodate up to 18 tourists in single and double rooms; meals are served family-style. The cost of the tour in 1985 was \$1,100 per person, which included transportation to and from Anchorage, room and board for four days, with tours to numerous island sites and lectures by NOAA biologists. During 1985, 60 tourists purchased the package, and 100 tourists are anticipated during 1986.

**Tanaq** also owns and manages the St. George store (not to be confused with the Community Canteen, administered through the IRA). According to some local



residents, the St. George store has lower prices than the St. Paul store, and some St. Paul residents periodically order goods, especially produce, from the St. George store. Alaska Native Industries Cooperative Association and Carr-Gottstein representatives assisted with the expansion of the St. George store in 1985, adding 1,200 square feet of store space to the 800 square foot facility and adding several grocery and hardware lines to the stock. The Tanaq strategy is to expand the variety of goods available locally, thus reducing dependence on outside sources of supply and retaining the commodity expenditures within the community. The store supports four full-time permanent employees and a part-time maintenance person.

The City of St. George and the St. George IRA have pursued lead roles in planning and administration of the harbor development scheme, but Tanaq was identified as early as 1983 to be a key local joint venture construction agency. This role provides some oversight authority of actual development operations, which are contracted to external firms. Both Tanaq and the city, however, have provided some administrative services and leased heavy equipment to contractors over the last two years.

### Values

The transition program on St. George has required sacrifice and determination among both individuals and institutions, and the joint activities of the key St. George political organizations have demonstrated a high level of cooperation, endurance in the face of constant obstacles and temporary defeats, and a struggle for self-sufficiency. The St. George institutions have apparently dealt with these challenges with pragmatism and restrained confidence in a manner that is well suited to the Aleut ethos. Numerous examples support this conclusion: the willingness on the part of some institutions to adopt substantial wage cuts, the shared responsibilities for health service, employment diversification, and the emphasis on entrepreneurship in commercial fisheries development. As one official states, "The challenge is to educate the community to change from what they were to entrepreneurship and self-sufficiency. It is a tremendous task, very frustrating."

The emphasis on self-sufficiency, independence, cooperation, endurance, tolerance, modesty, and other traditional Aleut values is also evident in the perceptions local residents report about esteemed leadership qualities. As part of the field investigations, local residents were asked to describe leadership qualities that were important in local institutions. Summaries of these responses are provided below.

RESPONDENT ONE: Local residents look for “productivity” in leaders; the ability to work hard and achieve solid benefits for the community while upholding their honesty at the same time.

RESPONDENT TWO: Local residents look for the ability to work hard against odds to accomplish what must be done in the institution, while also living up to family and work obligations; education is also important now.

RESPONDENT THREE: Local people look for honesty, hard work, and responsibility.

RESPONDENT FOUR: Local people look for the ability to accomplish what must be done, honesty, and past experience.

RESPONDENT FIVE: Local people look for hard work and past experience; we can't bother with “dreamers” since the issues are very serious and we must make serious progress.

RESPONDENT SIX: Local people look for experience and maturity; we don't need “hotheads”.

These statements might be recorded elsewhere in Alaska or the United States, however, their significance does not lie in their similarity to common attitudes but in the fact that these are Aleut people expressing attitudes that mesh well with non-Aleut beliefs. The attitudes conveyed in these passages have roots in traditional values, but are also attuned to the practical needs of governance and administration in a community undergoing rapid social and economic change. Thus, the political systems of St. George and the values that help shape them are not distinct from the less formalized patterns of life in Aleut households, but are an important outgrowth of those patterns.

### Summary

St. George political organizations are highly coordinated in their efforts to accomplish the transition from an economy dominated by a NMFS managed seal

harvest to a diversified economy based on fisheries development, tourism, and land-based support facilities for petroleum exploration and development. Development responsibilities have been allocated among the City of St. George, the St. George IRA Council, and Tanaq Corporation by joint agreement and working relations among these organizations are close. St. George institutions display a pragmatic approach to local development options and are willing to work together and with outside interests, such as oil development companies and foreign fishery firms to achieve their objectives. Obstacles to the success of a smooth economic transition were perceived as the greatest threat to St. George society.

#### EFFECTS OF RECENT OCS DEVELOPMENT

As stated previously, OCS activities reached St. George Island in the summer of 1985. With petroleum companies initiating Navarin Basin exploratory activities unable to use St. Matthew Island as an onshore base, the Pribilof Islands emerged as the most practical location for onshore support. St. Paul Island is the primary locus of staging operations, as discussed in the previous chapter. However, the oil companies decided to construct a helipad, weather station, and employee quarters by the St. George airport to serve as an alternate landing site when weather prohibits use of the St. Paul POSS base.

Overall, the impacts of these developments have been positive, according to field interviews. Construction of the St. George facilities provided jobs to local residents. The city received a fee from the three oil companies who sponsored the St. George support base although the oil companies had not used the facility. The oil companies' lease of city land also generates income for the city. A condition of the contract with the three oil companies in developing the support base required that the oil companies hire a physician's assistant to staff the St. George clinic, which is an improvement in the level of health care previously available on the island. The contract also stipulated that the weather station double as an airport terminal for public use, an added benefit to the community.

Thus, the community of St. George gained a number of benefits from the OCS related activity in 1985. As one individual stated, "St. George got more out

of the OCS activity than they put into it.” Because the support base was not used at all, negative impacts from its presence had not been experienced. Use of the base is expected to be infrequent; when it is used, the community is likely to experience little contact with the activity as the base is located over six miles from town. In summary, OCS impacts on St. George have been positive thus far and are expected to remain positive under the community provisions of the contract with the oil companies and under anticipated low use levels.



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## APPENDIX A: ECONOMIC LINKAGES

Information presented in Table A-1 on **Akutan** and similar tables (A-2 and A-3) for the communities of St. Paul and St. George is based on primary and secondary data gathered within the communities by field researchers during July and August, 1985; additional contacts were made with various organizations and agencies in September and October to fill data gaps and clarify information. In some cases, primary data were either not available within the community or were not released to the study team. Other sources of information included budgets and/or financial statements from communities and corporations. Financial statements, for example, for both the City of **Akutan** and the **Akutan** Corporation were obtained to corroborate interview data. This greatly aided in developing the economic linkages for **Akutan** shown in Table A-1.

The intent of this analysis is to identify major sources of income to the communities and describe the transactions between organizations and households in order to understand the possible range of responses within the community to external stimuli such as OCS activities. Major sectors within the local economy were identified and, where possible, the flow of funds between various sectors were traced. It should be emphasized that these results provide relative, not specific measures of the economic linkages in each community. Some data sources were not available to the project team; consequently, closure of the economic system for each community could not be undertaken. As a result, **totals** by organization and community are not in balance.

Data on income sources and transfers were obtained for fiscal year (FY) 1984 when possible. Certain major dollar flows, especially state capital grants, are displayed for several time periods 1) to indicate the magnitude of capital funds provided to communities and the subsequent dependence of local economies on these sources, and 2) to capture the actual time period of expenditures for major capital projects which can extend into several fiscal years. Detailed dollar flows for programs and operating budgets are generally only shown for FY 1984.

An economic linkage table was developed for each of the three communities (Akutan, St. George, and St. Paul) with emphasis on tracing the flow of funds from external sources through various organizations to households in the community. Fund sources are listed on the vertical axis. **Public** sources are listed first, from federal to state to local levels. Private sources are listed next with households listed **last**.

Fund uses or recipients are **listed** on the horizontal axis, with municipal, regional, and private organizations, along with households, being recipients of funds from other entities. Comments regarding the sources and how the values are derived are noted in the final column.

Given the assumption that the linkages shown do not change over time or in response to external stimuli, the **table** can be used to evaluate the potential effect on the community from OCS activities and other changes. It is important when using the **table** for this type of analysis to be cognizant of 1) the size of the community and 2) the **scale** of change which could be accommodated within the existing structure without resulting in significant change. Changes in the economic structure **would** have to be incremental in order for linkage assumptions to hold.

As an example, if an oil industry firm were to lease land from the Akutan Corporation for \$1,000,000 per year, the income **would** represent a significant change in the economic structure of the community, and the linkages shown in **Table A-1** **would** not be appropriate. However, if the lease amount were in the **\$50,000** range, the community economic structure **would** only be changed incrementally, and the linkages **should** be valid.

Given the economic structure identified in Table A-1, an income of \$50,000 to the Akutan Corporation **could** generate approximately \$2,500 of additional income to the City of Akutan, and \$6,500 of additional income to community households. The remaining funds would be spent outside of the community. The amounts presented above are direct linkages and do not include subsequent spending of funds within the community (e.g., additional food purchases at the store by households).

A gross allocation of total income for goods and services can be accomplished with Table A-1: the City of **Akutan** (utilities), the Akutan Corporation (lease income and supplies), households (salaries and wages), and money spent out of Akutan (supplies and services not available locally).

Data quality and availability varied within each community and are reflected in the tables for each city. Audited financial statements were obtained for the **Aleut** Corporation and the Akutan Corporation but were unavailable for the other village corporations or the IRA councils. Akutan had certified public accountant prepared statements while both St. George and St. Paul had unaudited statements or budgets, as submitted to the Alaska Department of Community and Regional Affairs. Federal expenditure data for certain social programs are limited to major census areas to prevent identification of recipients and were allocated on a per capita or per community basis. When data were not directly available for certain organizations, estimates were calculated by cross referencing other data sources.



Table A-1: CITY OF AKUTAN ECONOMIC LINKAGES

<u>Source</u>	<u>Total Amount</u>	<u>City of Akutan</u>	<u>IRA Council</u>	<u>Akutan Corp.</u>	<u>APIA</u>	<u>REAA School</u>	<u>State</u>	<u>Households</u>	<u>Bar</u>	<u>out of Communi</u>	<u>Comments</u>
FEDERAL											
Old Age Survivors & Disability Insurance:											(1)
Disability Insurance	3,687							3,687			
Retirement Insurance	10,724							10,724			
Survivor Insurance	6,419							6,419			
Supplemental Insurance	<u>2,146</u>							<u>2,146</u>			
	22,976							22,976			
Medicare:											(1)
Hospital	8,698									8,698	
Supplemental	<u>4,275</u>									<u>4,275</u>	
	12,973									12,973	
Veterans:											(1)
Education	734							734			
Financial Aid	<u>1,043</u>							<u>1,043</u>			
	1,777							1,777			
Economic:											
Small Business Assistance	6,608		6,608								(1)
Post Office:	18,000	12,000						6,000			(2)
Housing:											
Public Housing	530					530					(3)
HUD ( 1983)	<u>1,080,000</u>					<u>1,080,000</u>					(4)
	1,080,530					1,080,530					
Revenue Sharing:	0										(5)
Bureau of Indian Affairs:											(6)
Johnson O'Malley	2,750					2,750					

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Table A-1: CITY OF AKUTAN ECONOMIC LINKAGES (cont. ]

<u>Source</u>	<u>Tota 1 Amount</u>	<u>City of Akutan</u>	<u>IRA Count i 1</u>	<u>Akutan Corp.</u>	<u>APIA</u>	<u>REAA School</u>	<u>State</u>	<u>Households Bar</u>	<u>out of Community</u>	<u>Comments</u>
STATE										
Grants:										(7, 8)
FY81										
Airport	1,350,000									
Clinic	120,000									
Dock Site	250,000								60,000	
Power Study	50,000									
FY83										
Seaplane Ramp	150,000	115,000							35,000	
Solid Waste	50,000	50,000								
FY85										
Public Dock Study	90,000								90,000	
FY86										
School	600,000					600,000				
Electrification	500,000	436,156							73,844	
Bulk Fuel	<u>157,736</u>	<u>137,736</u>							<u>20,000</u>	
Total	3,317,736	728,092				<u>600,000</u>			218,844	
Education:										(7)
Tuition Grant	411									
Special Ed. /Handicapped	12,426									
Special Ed. /Disabled	38,400									
Adult Basic Ed.	5,215									
Library Resource	6,460									
Foundation Program	<u>1,878,348</u>									
Total	1,941,260					<u>211,424</u>			1,699,836	
Fish Tax:	102,758	102,758								(8)
Medical:										
Outpatient Psychiatric	3,414								3,414	(1)

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Table A-1: CITY OF AKUTAN ECONOMIC LINKAGES (cont. )

Source	Total Amount	City of Akutan	IRA Council	Akutan Corp.	APIA	REAA School	State	Households	Bar	out of Community	Comments
STATE (cont. )											
Social:											(1, 9)
Comprehensive Aging	1,461							1,461			
Energy Assistance	13,200							13,200			
AFDC	2,235							2,235			
Focal Stamps	1,835							1,835			
Old Age Assistance	<u>60</u>							<u>60</u>			
Total	18,791							18,791			
Safety:											
Comprehensive Program	9,141				9,141						(1,10)
Power:											
Generator (1982)	500,000	500,000									(3,11)
Loan (1982)	<u>127,000</u>	<u>127,000</u>									(3,11)
Total	627,000	627,000									
Municipal:											(8)
Municipal Assistance	25,508	25,508									
Revenue Sharing	<u>29,312</u>	<u>29,312</u>									
Total	54,820	54,820									
Other:											
Power Cost Equalization	3,717							3,717			(11)
Permanent Fund Dividend	22,859							22,859			(12)
Coastal Zone Mgmt.	21,000	21,000									(3)
Community & Reg. Aff.	<u>44,538</u>	<u>44,538</u>									(8)
Total	92,114	65,538						26,576			

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Table A-1: CITY OF AKUTAN ECONOMIC LINKAGES (cont. )

<u>Source</u>	<u>Total Amount</u>	<u>City of Akutan</u>	<u>IRA Council</u>	<u>Akutan Corp.</u>	<u>APIA</u>	<u>REAA School</u>	<u>State</u>	<u>Households</u>	<u>Bar</u>	<u>out of Community</u>	<u>Comments</u>
<b>CITY OF AKUTAN</b>											(2,8)
Salaries	118,181							106,181		12,000	
Rent	65,640			65,640							
Utilities	55,300									55,300	
Lease	37,500			37,500							
Other	279,466	2,965						58,509		217,992	
Solid Waste Grant	50,000							5,000		45,000	
Sea Plane Ramp	115,000										
Electrification	426,156	20,917						125,835		307,009	
Bulk Fuel	<u>157,736</u>	<u>14,340</u>						<u>27,600</u>		<u>115,796</u>	
<b>Total</b>	<b>1,304,979</b>	<b>38,222</b>		<b>103,140</b>				<b>323,125</b>		<b>753,097</b>	
<b>A/PIA</b>											(2,6,10,13)
Social Service	1,168										
Employment & Train.	4,647										
Housing	1,080,000										
Medical	23,200							23,200			
Safety Officer	30,000							30,000			
Summer Youth Program	1,500							<b>1,500</b>			
General Assistance	0										
<b>Weatherization</b>	<u>10,000</u>							<u>5,000</u>		<u>5,000</u>	
<b>Total</b>	<b>1,150,515</b>							<b>59,700</b>		<b>5,000</b>	
<b>REAA</b>											
Operating Budget	211,424	6,343		6,343				147,997		50,742	(14)
Capital Budget	<u>600,000</u>	<u>4,000</u>		<u>11,600</u>				<u>100,600</u>		<u>483,800</u>	(1,14)
	811,424	10,343		<b>17,943</b>				<b>248,597</b>		534,542	
<b>AKUTAN CORPORATION</b>											(15)
Store Sales	151,000							22,625		128,400	
Lease Income	102,000										
Other Income	<u>73,100</u>	<u>15,800</u>						<u>19,075</u>		<u>140,200</u>	
<b>Total</b>	<b>326,100</b>	<b>15,800</b>						<b>41,700</b>		<b>268,600</b>	

Table A-1: CITY OF AKUTAN ECONOMIC LINKAGES (cont. ~)

<u>Source</u>	<u>Tota l Amount</u>	<u>City of Akutan</u>	<u>IRA Count i l</u>	<u>Akutan Corp.</u>	<u>APIA</u>	<u>REAA School</u>	<u>State</u>	<u>Households</u>	<u>Bar</u>	<u>out of Community</u>	<u>Comments</u>
ALEUT CORPORATION											
Dividends	8,625							8,625			(16)
PROCESSORS											(8)
Taxes	130,000	27,581					102,758				
Wages	1,400,000							17,000	90,000	1,174,000	
Leases	<u>65,000</u>	<u>        </u>		<u>65,000</u>			<u>        </u>	<u>        </u>	<u>        </u>	<u>        </u>	
Tota l	1,595,000	27,581		65,000			102,758	17,000	90,000	1,174,000	
BAR	90,000							20,000		70,000	(2,13)
HOUSEHOLDS											(1,2)
Food	97,200			94,200						3,000	
Utilities	55,350	55,350									
Clothing & House. Items	27,000			8,910						18,090	
Travel & Entertainment	43,200			3,000					13,800	26,400	
Subs i stence	<u>43,200</u>	<u>        </u>		<u>10,800</u>					<u>        </u>	<u>32,400</u>	
Tota l	265,950	55,350		116,910					13,800	79,890	

Table A-1: CITY OF AKUTANECONOMIC LINKAGES (cont. ~

Sources/Comments:

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2. Field interviews (1985).
3. Alaska Office of Management & Budget, Grant Tracking Program, personal communication (1985).
4. U.S. Dept. of Housing & Urban Development, personal communication (1985).
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6. U.S. Bureau of Indian Affairs, personal communication (1985).
7. State of Alaska, Election District Reports, Capital Budget Summaries (1981-1985).
8. City of Akutan Financial Statement (FY 1984).
9. Alaska Department of Health & Social Services, personal communication (1985).
10. Aleutian/Pribilof Islands Association, personal communication (1985).
11. Alaska Power Authority, personal communication (1985).
12. Patrick Burden & Associates, 1984 estimate based on tier of recipients in 1983 (69).
13. Patrick Burden & Associates, estimate (1985).
14. Aleutian Region School District, personal communication (1985).
15. Akutan Corporation, financial statements.
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Table A-2: CITY OF ST. PAUL ECONOMIC LINKAGES

<u>Source</u>	<u>Total \$ Amount</u>	<u>City of St. Paul</u>	<u>IRA Count i l</u>	<u>TDX Corp.</u>	<u>Aleut Corp.</u>	<u>APIA</u>	<u>REAA School</u>	<u>Construction</u>	<u>Households</u>	<u>out of Community</u>	<u>Sources/ Comments</u>
FEDERAL											
Grants:											
ICC Settlement	1,000,000	1,000,000									(1,2)
NMFS Transfer	1,000,000	1,000,000									
Fur Seal Act	12,000,000	840,730		127,000							
Other	<u>2,022,000</u>			<u>2,022,000</u>							
Total	16,022,000	2,840,730		2,149,000							
Old Age Survivors & Disability Insurance:											
Disability Insurance	11,608								11,608		(3)
Retirement Insurance	33,760								33,760		
Survivors Insurance	20,209								20,209		
Supplemental Income	<u>6,755</u>								<u>6,755</u>		
Total	72,332								72,332		
Medicare:											
Hospital	27,382									27,382	(3)
Supplements 1	<u>13,459</u>									<u>13,459</u>	
Total	40,841									<u>40,841</u>	
Veterans:											
Education	2,310								2,310		(3)
Financial Aid	<u>3,282</u>								<u>3,282</u>		
Total	5,592								5,592		
Other Economic:											
Small Business Asst.	20,802			20,802							(3)
Minorities Eco. Dev.	<u>152,200</u>			<u>152,200</u>							
Total	173,002			173,002							
Housing:											
Public Housing	133,386					133,386					(4)
HUD: 14 Units	<u>952,000</u>					<u>952,000</u>					
Total	1,085,386					1,085,386					

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Table A-2: CITY OF ST. PAUL ECONOMIC LINKAGES (cont.)

<u>Source</u>	<u>Total \$ Amount</u>	<u>City of St. Paul</u>	<u>IRA Council</u>	<u>TDX Corp.</u>	<u>Aleut Corp.</u>	<u>APIA</u>	<u>REAA School</u>	<u>Construction</u>	<u>Households</u>	<u>out of Community</u>	<u>Sources/Comments</u>
FEDERAL (cont.)											
Revenue Sharing:	41,919	41,919									(5)
Bureau of Ind. Affairs: Johnson O'Malley	30,333		30,333								(6)
STATE											
Grants:											(7)
FY81 :											
Harbor Engineering	350,000										
Code Upgrade	415,000										
FY82:											
Rec Center	50,000										
Airport Study	70,000										
Boat Launch	137,000										
Voc-Ed Facility	115,000										
FY83:											
Mul t i -Purpose Fat.	200,000										
FY84 :											
Harbor Design	500,000			20,000						480,000	
Harbor	7,000,000							7,000,000			
FY85 :											
Harbor	<u>8,600,000</u>										
<b>Total</b>	17,437,000			20,000				7,000,000		480,000	
Education:											(1,8)
(shared w/St. George)											
Spec. Ed. /Handicapped	22,949										
Informal Ed.	19,793										
Adult Basic Ed.	6,522										
Library Resources	8,650										
Foundation Program	<u>1,615,785</u>										
	1,673,699							1,349,699		324,000	

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1



Table A-2: CITY OF ST. PAUL ECONOMIC LINKAGES (cont.)

<u>Source</u>	<u>Total \$ Amount</u>	<u>City of St. Paul</u>	<u>IRA Council</u>	<u>TDX Corp.</u>	<u>Aleut Corp.</u>	<u>APIA</u>	<u>REAA School</u>	<u>Construct ion</u>	<u>Households</u>	<u>out of Community</u>	<u>Sources/ Comments</u>
STATE (cont. )											
<b>Medical:</b>											
Outpatient Psychiatric	10,594									10,594	(3)
<b>Social:</b>											
Employment Assistance	16,930								16,930		(8)
Comprehend i ve Aging	4,598								4,598		(3)
Energy Assistance	1,900								1,900		(8)
Housing Loans	105,000								105,000		(9)
AFDC	27,926								27,926		(10)
Food Stamps	19,146								19,146		(10)
Old Age Assistance	3,358								3,358		(10)
Aid to Perm. Disabled	5,597								5,597		(9)
<b>Total</b>	183,825								183,825		
<b>Safety:</b>											
Comprehend i ve Program	28,776					28,776					(3)
<b>Economic:</b>											
Business Dev.	4,000	4,000									(8)
<b>Other:</b>											
Permanent Fund Div.	145,436								145,436		(16)
Coastal Zone Mgmt.	15,000	16,000									
Support Art	3,100	3,100									
Retreat ion	102,493	102,493									
<b>Total</b>	267,029	121,593							145,436		
<b>Municipal:</b>											
Municipal Assistance	71,952	71,952									(7)
Revenue Shari ng	125,505	125,505									
<b>Total</b>	197,457	197,457									

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Table A-2: CITY OF ST. PAUL ECONOMIC LINKAGES (cont.)

Source	Total \$ Amount	City of St. Paul	IRA County	TDX Corp.	Aleut Corp.	APIA	REAA school	Construct ion	Households	out of Community	Sources/ Comments
CITY OF ST. PAUL											
Administration	410,476								265,776	144,770	(2)
City Services	131,765								131,765		
Public Works	93,775								75,020	18,755	
Machinery & Main.	513,486								319,959	193,527	
Roads	15,516								15,516		
Special Projects	<u>226,624</u>								<u>135,974</u>	<u>90,650</u>	
Total	1,391,642								944,010	447,702	
IRA											
Purchase Fish Plant	170,000			170,000							(1,9)
Store	1,000,000								100,000	900,000	
Canteen	175,000								50,000	85,000	
Fish Plant	179,000								110,100	28,600	
Gasoline	170,000								25,000	140,000	
Other	100,000								25,000	20,000	
Seal Harvest	<u>256,000</u>								<u>236,000</u>	<u>20,000</u>	
Total	2,050,000			170,000					546,100	1,193,600	
A/P IA											
Social Service	3,772									3,772	(3,6)
Employment & Train.	150,000									150,000	(3,6)
Housing	1,085,386							868,000		217,000	(9)
Medical	7,200									7,200	(11)
Safety Officer	60,000								60,000		(11)
Summer Youth Program	6,500								6,500		(9)
General Assistance	0										
Weather ization	<u>0</u>										
Total	1,177,858							868,000	66,500	242,972	

Table A-2: CITY OF ST. PAUL ECONOMIC LINKAGES (cont.)

Source	Total \$ Amount	City of St. Paul	IRA Count i 1	TDX Corp.	Aleut Corp.	APIA	REAA School	Construct ion	Households	out of Communi ty	Sources/ Comments
REAA (Local)	1,349,699	80,982							944,789	323,928	(1,12)
<b>TDX CORPORAT 10N</b>											
Wages: G&A, Other	485,000								453,000	32,000	<b>(13)</b>
Wages: Seal Harvest	256,000							236,000	20,000		
Utilities	95,000	95,000									
Sa les Taxes	30,000	30,000									
Other	<u>10,000</u>										
Total	875,000	125,000						<u>1 0 , 0 0 0</u>	<u>52,000</u>		
<b>ALEUT CORPORATION</b>											
Dividends	55,000								55,000		(14)
POSS Construction	9,400,000						7,140,000				(15)
POSS Operations	<u>0</u>										
Total	9,455,000						<u>7,140,000</u>		<u>55,000</u>		
<b>HOUSEHOLDS</b>											
Food	1,001,400		901,260								<b>(1)</b>
Fuel	901,800	901,800									
Electricity	653,000	653,000									
Housing	840,000										
Other	<u>1,569,400</u>							<u>369,400</u>	<u>1,200,000</u>		
Total	4,966,000	1,554,800	901,268					369,400	1,200,000		
<b>OTHER</b>											
Construct ion	25,000,000	50,000		163,000				1,500,000	23,200,000	<b>(1,9)</b>	
Tourists	135,000	5#000		70,000					60,000	(1,9)	
Interest, Misc.				<u>228,000</u>						(1,9)	
Total	25,135,000	55,000		461,000				<u>1,500,000</u>	<u>23,260,000</u>		

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Table A-2: CITY OF ST. PAUL ECONOMIC LINKAGES (cont.)

Sources/Comments:

1. **Field** interviews (1985).
2. City of St. Paul Financial Statement (FY 1984).
3. Patrick Burden & Associates, per capita estimate (1985).
4. U.S. Dept. of Housing & Urban Development, personal communication (1985).
5. U.S. Department of Revenue, personal communication (1985).
6. U.S. Bureau of Indian Affairs, personal communication (1985).
7. State of Alaska, Election District Reports, Capital Budget Summaries (1981 - 1985).
8. Alaska Office of Management & Budget, Grant Tracking Program, personal communication (1985).
9. Patrick Burden & Associates, estimate (1985).
10. Alaska Department of Health & Social Services, personal communication (1985).
11. Aleutian/Pribilof Islands Association, personal communication (1985).
12. Pribilof Islands School District, personal communication (1985).
13. Tanadgusix Corporation, personal communication (1985).
14. Aleut Corporation, yearly reports.
15. Aleut Corporation, personal communication (1985).
16. Patrick Burden, 1984 estimate based on number of recipients in 1983 (439).

Table A-3: CITY OF ST. GEORGE ECONOMIC LINKAGES

<u>Source</u>	<u>Total Amount</u>	<u>City of St. George</u>	<u>IRA Council</u>	<u>Tanaq Corp.</u>	<u>Aleut Corp.</u>	<u>A/PIA</u>	<u>REAA School</u>	<u>Calista</u>	<u>Brice</u>	<u>Households</u>	<u>out of Community</u>	<u>Comments</u>
FEDERAL												
Grants:												
ICC Settlement	833,000		833,000									(1)
NMFS Transfer	1,000,000	1,000,000										
Fur Seal Act	8,000,000			695,000								
ANA Grant	130,000		130,000									
Bird Rookeries	<u>2,400,000</u>			<u>2,400,000</u>								
	<b>12,363,000</b>	<b>1,000,000</b>	<b>963,000</b>	<b>3,095,000</b>								
Old Age Survivors & Disability Insurance:												
Disability Ins.	3,394									<b>3,394</b>		(2,3)
Retirement Ins.	9,873									9,873		
Survivors Ins.	5,910									5,910		
Supp. Income	<u>1,975</u>									<u>1,975</u>		
	21,152									21,152		
Medicare:												
Hospital	8,007										8,007	(2,3)
Supplemental	<u>3,936</u>										<u>3,936</u>	
	11,943										<b>11,943</b>	
Veterans:												
Education	676										676	(2,3)
Financial Aid	<u>960</u>										<u>960</u>	
	1,636										1,636	
Economic:												
Small Bus. Asst.	6,083		6,083									(3)
Minor. Econ. Dev.	<u>145,000</u>		<u>145,000</u>									(3,4)
	151,083		151,083									

Table A-3:

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	Total Amount	City of St. George	IRA Council	Tanaq Corp.	Aleut Corp.	A/PIA	School	Calista	Brice	Households	Out of Community	Comments
STATE (cont.)												
Education:												
(shared w/St. Paul)												(2,4)
Special Ed.	22,949											
Informal Ed.	19,793											
Adult Basic Ed.	6,522											
Lib. Resources	8,650											
Foundation Pro.	<u>1,615,785</u>											
	1,673,699							<u>24,000</u>			<u>1,349,699</u>	
Medical:												
Outpatient Psy.	3,189										3,189	(2,3)
Social:												
Employ. Assistance	0											
Comprehensive Aging	1,345									1,345		(2,3)
Energy Assistance	2,462									2,462		(2,3)
AFDC	24,836									24,836		(10)
Food Stamps	<u>4,133</u>									<u>4,133</u>		(10)
	32,776									32,776		
Safety:												
Comp. Program	8,415					8,415						(2)
Cost Eq.	0											( )
Economic:												
Business Dev.	2,000		2,000									2,2)
Other:												
Permanent Fund Div.	52,012										52,012	(13)
CRA Planning	7,500										72,500	(3,12)
Historical Pres.	<u>2,000</u>										<u>24,500</u>	(3,12)
	136,512										<u>24,500</u>	

Table A-3: CITY OF ST. GEORGE ECONOMIC LINKAGES (cont.)

	Total Amount	City of St. George	IRA Council	Tanaq Corp.	Aleut Corp.	A/PIA	REAA School	Calista	Brice	Households	Out of Community	Income
(cont.)												
Housing:												
Public Housing	10,362					10,362						(3)
HUD: 8 Units	600,000					600,000						(5,6)
5 Units	450,000					450,000						(5,6)
	<u>1,050,362</u>					<u>1,050,362</u>						
Revenue Sharing:												
Region	2,275	2,275										(2,3)
Direct	2,769	2,769										(7)
	5,044	5,044										(8)
BIA:												
Johnson O'Malley	8,250					8,250						
STATE												
Grants:												
FY81:												
Boat Landing	000											
Code Upgrade	300											
FY82:												
Airport Study	15000											
Dock/Harbor	300000											
FY83:												
Breakwater	180000								530,000		270,000	
FY85:												
Boat Ramp	160000											
Harbor	550000											
Sewer Outflow	150000											
FY86:												
Harbor	350,000											
	<u>1,240,000</u>								<u>206,000</u>		<u>94,000</u>	

Table A-3: CITY OF ST. GEORGE ECONOMIC LINKAGES (cent.)

<u>Source</u>	<u>Total Amount</u>	<u>City of St. George</u>	<u>IRA Count it</u>	<u>Tanaq Corp.</u>	<u>Aleut Corp.</u>	<u>A/PIA</u>	<u>REAA S c h</u>	<u>Calista</u>	<u>Brice</u>	<u>out of House holds</u>	<u>Comments</u>
STATE (cent.)											
<b>Municipal:</b>											(14,15)
Municipal Ass.	21,147	21,147									
Rev. Sh. Excess	4	4									
Ran Fish Tax	<u>1,071</u>	<u>1,071</u>									
	22,222	22,222									
<b>CITY OF ST. GEORGE</b>											(12, 14)
Mayor, Council	112,884								28,132	<b>84,752</b>	
St. G. Office	232,755		15,300	50,000					39,000	128,455	
Anch. Office	171,540								540	171,000	
Machine Shop	246,536								142,143	104 # 393	
Elec., Plumb.	120,479								89,375	31,104	
Road Maint.	51,399								47,900	3,499	
Fire Dept.	<u>16,000</u>								4,500	11,500	
Subtotal	951,593										
Power Plant	217,346								49,960	167,386	
Wat, Sew, Refuse	25,342								25,324		
Fuel Dist.	252,728								7,084	245,644	
Lighting	<u>20,409</u>								7,096	13,313	
Subtotal	515,807										
Total Expend.	<u>1,467,400</u>		15,300	50,000					441,054	961,046	
<b>IRA</b>											(2, 5)
Bingo	25,000	3,000	5,000	2,000					15,000		
Sales, Canteen	250,000	5,000	10,000						35,000	200,000	
<b>Grants:</b>											
ICC	833,000										
ANA	130,000		20,000						70,000	40,000	
Econ. Dev.	151,083										
Johnson O'Malley	7,500								<b>5,000</b>	2,500	
BD & Hist. Pres.	<u>4,000</u>								<u>4,000</u>		
	416,500	<u>8,000</u>	<u>35,000</u>	2,000					129,000	243,000	



Table A-3: CITY OF ST. GEORGE ECONOMIC LINKAGES (cont.)

Source	Total Amount	City of St. George	IRA Council	Tanaq Corp.	Aleut Corp.	A/PIA	REAA school	Calista	Brice	Households	out of Community	Comments
<b>A/PIA</b>												(2, 5, 8, 16)
Johnson O'Malley	8,250		7,500									
Social Service	634									624		
Employ. & Train.	3,868									3,868		
Housing	1,050,000					210,000	840,000					
Medical	32,000									32,000		
Safety Officer	30,000									30,000		
Summer Youth Pro.	0											
General Assist.	0											
Weatherization	<u>0</u>											
	1,116,492		7,500			210,000	840,000			66,492		
<b>REAA (Local)</b>	<b>324,000</b>	19,200		<b>10,000</b>						226,800	68,000	(2, 17)
<b>TANAQ CORPORATION</b>												(12, 18)
Store Sales	522,000	42,000								74,000	406,000	
Hotel	70,000	6,100								24,800	39,100	
Salaries/Exp.	144,000										144,000	
Supplies	91,000										91,000	
Other	450,000										450,000	
General & Admin.	<u>618,000</u>										<u>618,000</u>	
	1,895,000	48,100								98,000	1,748,100	
<b>ALEUT CORPORATION</b>												<b>(19)</b>
Dividends	26,000									20,000	6,000	
<b>PROCESSORS</b>										89,600		(12)
<b>HOUSEHOLDS</b>												(5)
Food	467,856			374,285							93,571	
Fuel	366,768	366,768										
Electricity	200,880	200,880										
Other	<u>614,304</u>		<u>150,184</u>	<u>17,184</u>							<u>447,120</u>	
	1,649,808	567,656	150,184	391,469							540,691	

Table A-3: CITY OF ST. GEORGE ECONOMIC LINKAGES (cent. )

<u>Source</u>	<u>Total Amount</u>	<u>City of St. George</u>	<u>1 RA Council</u>	<u>Tanaq Corp.</u>	<u>Aleut Corp.</u>	<u>A/PIA</u>	<u>REAA School</u>	<u>Calista</u>	<u>Brice</u>	<u>out of Households</u>	<u>Comments</u>
OTHER PRIVATE											(12)
Brice	1,530,000	30,000		25,000					250,000	1,225,000	
Calista	<u>945,000</u>	<u>          </u>		<u>45,000</u>					<u>          </u>	<u>1,000,000</u>	
	6,621,000	30,000		70,000					250,000	2,225,000	
TOURISTS	55,000			55,000							(12)

Sources/Comments:

1. Patrick Burden & Associates, estimate based on distribution to city (1985).
2. Patrick Burden & Associates, per capita estimate (1985).
3. Alaska Office of Management & Budget (OMB), personal communication (1985).
4. Alaska Office of Management & Budget, Grant Tracking Program (1985).
5. Field interviews (1985).
6. U.S. Dept. of Housing & Urban Development, personal communication (1985).
7. U.S. Department of Revenue, personal communication (1985).
8. U.S. Bureau of Indian Affairs, personal communication (1985).
9. State of Alaska, Election District Reports, Capital Budget Summaries (1981 -1985).
10. Alaska Department of Health & Social Services, personal communication (1985).
11. Alaska Power Authority, personal communication (1985).
12. Patrick Burden & Associates, estimate (1985).
13. Patrick Burden & Associates, 1984 estimate based on number of recipients in 1983 (157).
14. City of St. George Financial Statement (FY 1984).
15. Alaska Department of Community & Regional Affairs, personal communication (1985).
16. Aleutian/Pribilof Islands Association, personal communication (1985).
17. REAA records (1985).
18. Tanaq Corporation, personal communication (1985).
19. Aleut Corporation, yearly reports.