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**COMMUNITY PROFILES DEVELOPED FOR THE
SOCIAL IMPACT ASSESSMENT OF THE
INSHORE/OFFSHORE AMENDMENT PROPOSAL**

**Kodiak, Alaska
Sand Point, Alaska
St. Paul, Alaska
Unalaska, Alaska
Bellingham, Washington
Newport, Oregon**

Submitted to

North Pacific Fishery Management Council

Submitted by

**IMPACT ASSESSMENT, INC.
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January 25, 1991

Introduction

The aim of this report is to provide background information sufficient to place subsequent analytical discussions of the social impacts of various alternative inshore/offshore allocations within an adequate interpretative context. The mechanism for doing so is to produce community profiles for each of six coastal communities likely to be affected by such inshore/offshore allocation decisions. Four of these communities are in Alaska (Kodiak, Sand Point, St. Paul, and Unalaska/Dutch Harbor), one is in Oregon (Newport), and one is in Washington (Bellingham). (In addition, interviews were conducted in Seattle to provide data on perspectives of the factory trawler fleet. This information will appear in the next document in this series, Draft Social Impact Assessment of the Proposed Inshore/Offshore Amendment.)

An attempt has been made to make the community profiles as standard in format as possible, but a number of factors conspired to make this difficult. The amount of secondary information available on the communities varied from a great deal to relatively little. As this project was conceived and funded foremost as a secondary literature review, field data collection time was limited in the extreme for every community, but again some community field visits yielded information more easily than others, based on local recording keeping systems and the availability of key persons. Finally, it was apparent that while there were some issues and likely effects that cross-cut all communities, there were also very clear cut differences. That is, of course, why these particular communities were specified for characterization. This in turn has meant that, in order to produce useful profiles of manageable length, each community profile has been focused on those aspects of the community likely to be discussed in future analytical reports. In this regard, a special note should be made of the St. Paul and Unalaska profiles.

St. Paul and Unalaska are connected in that, in a basic way, Unalaska is a type of model for St. Paul. The successful development of the groundfish processors in Unalaska, and its emergence as a service port, suggested that this may be possible (on a smaller scale) for St. Paul as well. This has clearly been the thrust of economic development money spent in St. Paul to date, and is the basis upon which St. Paul is being considered in this report.

This, in addition to the reasons discussed above, explains the relative length of the St. Paul profile. The fishery in St. Paul is not yet greatly developed (either in the harvesting or processing sectors) and a greater level of detail and overall contextual information is required if future analysis is to be comprehensible. The other communities have developed fisheries, and the consequences for these fisheries (and the communities) can be assessed by focusing on those fisheries. The St. Paul case is much more one of general community development which may determine the future character of the community in a very fundamental way.

Unalaska is perhaps the opposite extreme of the St. Paul case. Unalaska has not only a very large shore-based processing sector, but also functions as the service base for the Bering Sea factory trawler fleet. Furthermore, this has been a recent and quite rapid development. Groundfish in 1989 accounted for fully \$37.4 million of the \$112.7 million total ex-vessel value of fish landed in Unalaska, a truly astounding figure when one considers that as recently as 1986, the groundfish fishery was still mainly an unproven experiment. This represents not only a huge investment in the community and a fundamentally important source of revenue for the municipality, but also has been the underlying engine for growth and change in the community. To adequately document this requires a somewhat greater length profile than for the other communities. The explosive growth of the American factory trawler fleet is a matter of public record, and has also fed into the Unalaska growth dynamic, particularly as seen in the growth of the support facilities as discussed in the community profile.

Future reports analyzing the potential social effects of different inshore/offshore allocative regulations will use these profiles as building blocks, in combination with the preliminary results of the economic modeling group, when they are available. The intent here has been to be descriptive and to set the stage as it were for succeeding discussions of substantive issues. Most of these issues are rooted in the descriptive context contained in the profiles, which is their main value.

Report Organization

This report is presented as a series of free-standing profiles. The Alaska communities are presented first, in alphabetical order, and are followed by the profiles of Bellingham and Newport. Each community is provided with its own table of contents.

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Table of Contents
Kodiak Community Profile

INTRODUCTION	1
POPULATION	2
Size and Composition	2
Household Size and Composition	7
Educational Status	8
SOCIOECONOMICS	10
Economic Profile	10
The Gulf of Alaska Groundfish Fishery	16
Plant Operation and the Labor Force	21
Fishery Issues and Characterizations	24
Infrastructure	28
SOCIOCULTURAL PROFILE	29
Social Organization	29
Government	29
Quasi-Governmental, Regulatory, and Industry Associations	30
Social Services	33
Sociocultural Values	34
Religion	34
Views on Resource Management	34
Subsistence	36
REFERENCES	38

KODIAK, ALASKA

I. INTRODUCTION

From the archaeological record, it appears that people of various cultural traditions have inhabited Kodiak Island for at least 7,000 years (Cultural Dynamics, Ltd. [CDL] 1986:399). When the Russians became the first non-Natives to contact Kodiak in the late 1700s, the Koniag people were living there. In 1792, Alexander Baranof established a settlement at Chiniak Bay, the site of present day Kodiak. The census for that year indicated there were 6,500 Koniag in the area, which made the population of the Kodiak area twice that of any other Alaska Eskimo group at the time (Oswalt 1967:6). However, it didn't take long for the Russian colonization of Kodiak to have a devastating effect on the Koniag population. By the time the Americans replaced the Russians in Alaska, the Koniags had almost disappeared as a viable society (Payne 1980:26).

The selling of Alaska to the United States in 1867 marked a new era of change on Kodiak. At the time of the purchase the major commercial enterprise was sea otter fur harvesting which eventually led to near extinction of the species (CDL 1986:399). However, in 1882 a fish cannery was opened at the Karluk spit. This was the beginning of industrialized commercial fishing in the area. The commercial fishing industry is responsible to a very large degree for the structure of the community of Kodiak as it exists today.

The other major event which fundamentally changed Kodiak, and strongly shaped subsequent events that continue to influence the present community, was World War II. In 1939 construction of a Naval base began about seven miles out of town. A year later the Army began to move in. Kodiak's 1939 population of 864 jumped to 3,500 by 1941 (Payne 1980:33). In the post World War II era Kodiak city's population declined, dipping to 1,710 in 1950. However, changes begun during the War continued, and as Kodiak's port modernized, its population grew, and fishing soon became the city's most important economic industry. By the late 1970s and early 1980s, Kodiak had become the state's dominant fishing port (CDL 1986:400). It has maintained this status, even in the face of rapidly changing fisheries, because of the adaptability of its fishing fleet. Perhaps the most important recent fishery development is the "Americanization" of the Bering Sea groundfish fishery and the development of Unalaska/Dutch Harbor as a harbor rivaling Kodiak in level of activity (as home to shore based processors as well as a support base for the factory trawler fleet). The development of the Kodiak fleet as adaptable and multi-species oriented, and the impact of the American factory trawler fleet, will be developed in the appropriate sections below.

II. POPULATION

A. Size and Composition

Table 1 (adapted from CDL 1986:400, with additions from several other sources) summarizes the gross population dynamics of the city of Kodiak, and its relation to the island as a whole since 1950. World War II sparked Kodiak's growth, but it was between 1960 and 1984, when the fishing industry rapidly expanded, that Kodiak experienced its most dramatic growth. After 1984 Kodiak has managed to hold its own in the face of fundamental changes in local fisheries. As some resources have been depleted or have vanished for one reason or another, others have been developed in their place. This history of the fisheries is traced in our discussion of the local fishing economy below.

It can be presumed that prior to 1950, and especially before World War II, Kodiak was not much larger than some of the other communities on the island. During the period from 1950 until the late 1970s or the early 1980s (depending on whose numbers are used) the population of the city of Kodiak was increasing at a faster rate than that its hinterland. Indeed, the outlying areas of the island may have been losing population (to the city of Kodiak as well as other places). Since the late 1970s or early 1980s the city of Kodiak and the rest of the Kodiak Island Borough (KIB) population have been increasing at about the same gradual rate, so that the city of Kodiak's population is now fairly stable at somewhat under 50 percent of the Borough's population. This makes sense in terms of the fisheries history of Kodiak (see below), since the king crab boom swelled in 1981 and 1982, and crashed in 1983. Since then, local fishermen have adapted by fishing for several different species (at different times, often with different gear), instead of concentrating on one major target species. This has resulted in a fairly stable local economy and population, but has not encouraged the same influx of immigrants (or at least seasonal fishermen) as in the halcyon crab days.

Kodiak's population is subject to huge seasonal fluctuations. With the opening of fishing season, transient labor for the cannery floods the community. During August, employment increases to about 120% of its annual average and in March it decreases to about 83% of its annual average (Alaska Consultants 1976:26, cited from Payne 1980:19). This means that all population figures are rather suspect, and the "best" figure often is determined by the intended use.

Table 2 is a detailed population breakout for 1980 for the city of Kodiak by age and sex for the three major ethnic groups in the city. Note that this is not the total population of the city in 1980, as the 162 people who would be put in the "other" column have been left out of the table. Equally detailed information is not available for the KIB for 1980, or for either entity for 1970. Population breakouts by sex and ethnicity for both the city and the KIB in 1980 are presented in Tables 4 and 5. A similar breakout for the 1970 city of Kodiak population is provided in Table 6 (again, KIB information is not readily available).

Year	City of Kodiak	Kodiak Census Division ¹	City of Kodiak as a % of Kodiak Census Division
1880	288		
1890	495		
1900	341		
1910	438		
1920	374		
1929	442		
1939	864		
1950	1,710	6,264	27.3
1960	2,628	7,174	36.6
1970	3,798	9,409	40.4
1977	4,260	8,893	47.9
1980	4,756	9,939 (10,161)	47.9 (46.8)
1981	5,754 (4,678)	10,119	56.9 (46.2)
1982	5,873	12,714 (12,624)	46.2 (46.5)
1983	6,027 (6,030)	13,079 (13,004)	46.1 (46.4)
1984	6,469 (6,069)	13,389 (13,265)	48.3 (45.8)
1985	6,602 (6,173)	13,748 (13,568)	48.0 (45.5)
1986	6,668 (6,619)	13,952 (13,640)	47.8 (48.5)
1987	6,681	14,127 (13,600)	47.3 (49.1)
1988	6,774 (6,651)	15,575 (13,698)	43.5 (48.6)
1989	6,774 (6,704)	15,558 (13,683)	43.5 (49.0)

¹ Referred to as St. Paul
² Referred to as Kodiak
³ Kodiak Island Borough was incorporated in 1963

Source: Payne 1980:20; CDL 1986; Community Development Department, Kodiak Island Borough; U.S. Census, U.S. Department of Commerce; (Alaska Department of Labor, Research & Analysis 1990).

Table 2
Population Composition, City of Kodiak, Alaska -- 1980

Age Range	White			Aleut			Filipino		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-4	152	147	299	19	23	42	23	23	46
5-9	134	114	248	25	24	49	17	20	37
10-14	111	119	230	35	34	69	18	19	27
15-19	134	132	266	38	40	78	20	13	33
20-24	187	198	385	29	19	48	51	34	85
25-29	263	204	467	28	20	48	46	24	70
30-34	115	172	387	9	17	26	40	28	68
35-39	150	129	289	22	19	41	32	21	53
40-44	101	88	189	22	13	35	14	12	26
45-49	95	66	161	19	15	34	11	9	20
50-54	75	48	123	24	11	25	10	10	20
55-59	70	47	117	11	8	19	19	14	33
60-64	46	32	78	8	15	23	13	5	18
65-70	34	21	55	3	8	11	6	6	12
70-74	10	12	22	4	6	10	3	2	5
75+	13	8	21	6	9	15	1	---	1
Total	1,800	1,537	3,337	292	281	573	314	240	554

Source: U.S Department of Commerce, Bureau of the Census 1982a: Tables 39 and 40.

Some interesting observations can be made from Table 2. For all three ethnic groups males consistently outnumber females. For Whites and Aleuts, however, this is less consistent than for Filipinos. The White and Aleut overall patterns are quite different. Taken as a whole, the Aleut population has a roughly equal sex distribution, as expected of a more Native population. The White population, on the other hand, has a significantly unequal male/female distribution (54/46), even though it is almost six times as large. Both the White and the Aleut populations have a large excess of females over males in the 30 to 34 age cohort. A cause for this is not readily apparent. One would assume that the greater imbalance in the White sex ratios is due to more differential immigration (and emigration) among Whites than among Aleuts. Since Aleut men are more likely to remain unmarried than are either White or Filipino men (Table 3), the differential immigration argument does not apply to them. The very uneven Aleut population distribution may account for part of this. It is also clear that although women over the age of 14 in Kodiak are more likely to be married than are men over the age of 14, this is more true of Filipino and Aleut women than of White women, when compared to the male group of their own ethnicity (Table 3). There are several causal factors and the situation complex. Immigration for work, cross-cultural marriage patterns, and emigration probably all play a part. Filipino sex ratios bolster this argument, as they are even somewhat more skewed than are the White ratios (57 males to 43 females) and it is clear that many of them are recent immigrants. Furthermore, although Filipinos below the age of 14 are almost evenly divided, those older

than 14 (especially in the working ages of 15 to 39) are much more likely to be male than female. Yet, White and Filipino males over the age of 14 are about equally likely to be unmarried, and it is Aleut males who tend to remain unmarried, as discussed above.

Category of Persons	City of Kodiak			Kodiak Island Borough		
	White	Aleut	Filipino	White	Aleut	Filipino
Females Over Age 14	1,157	200	178	2,233	514	202
Females Never Married Over 14	290	49	30	480	132	32
Percentage Females Never Married	25.1	24.5	16.9	21.5	25.7	15.8
Males Over Age 14	1,403	213	266	3,082	632	296
Males Over Age 14 Never Married	455	94	94	1,040	282	97
Percentage Never Married	32.4	44.1	35.3	33.7	44.6	32.8

Source: U.S. Department of Commerce, Bureau of the Census 1982a: Tables 39, 40, 49, 50.

The city of Kodiak is made up three primary ethnic groups -- Euroamerican (3,337), Aleut (573) and Filipino (554) (Table 4). While Aleut residents are the second most populous group, residents of Filipino descent are a very close third. The unusually high proportion of Filipino residents, and smaller populations of Vietnamese and Mexicans, is tied closely to the growth of the fishery in Kodiak. Differences originating in these ethnic identities are reflected in the residential areas and social organization of the community. The Aleut population resides throughout the city but primarily in older homes to the east of town near the waterfront and to the northeast along the hillside. Within this Aleut residential area patterns which reflect traditional village relationships can be found. The Filipino community is located mostly in this same hillside area on the western end of Hemlock and Willow Streets, and at the western end of Simeonoff Street in the western portion of the city. A substantial number of Mexicans live in the same general area. This area has come to be known as an ethnic enclave of sorts.

Comparing Tables 4, 5, and 6 points out the salient characteristics of these three ethnic groups. Whites live about equally in the city of Kodiak and the rest of the borough (with a slight edge to the rest of the borough), and are increasing at a slower rate than the other two groups (since they have decreased as a percentage of the population). Filipinos as a group live predominately in the city of Kodiak (554 out of 624, or 88.8 percent). They are increasing the most rapidly of the three groups, from immigration and probably also a high birth rate (there are relatively few elderly Filipino and most of Filipino women over the age of 14 are married). This is the result of the development of a Filipino fish processing workforce in Kodiak. The Aleut population lives predominately outside of Kodiak (66.5 percent) and has maintained its relative place in the population at large. The Aleut rate of increase is between that of the Filipinos and the Whites. It is likely that the

characteristics of those Aleut who live in Kodiak are different from those who live outside of Kodiak, but that is not a topic that can be developed in this document.

Table 4
Composition of Population by Ethnicity and Sex
City of Kodiak, Alaska, 1980

Ethnicity	Sex		Total	% of Total Population
	Male	Female		
Caucasian	1,800	1,537	3,337	70.2
Black	15	11	26	0.5
Spanish origin ¹	110	86	196	4.1
Aleut	292	281	573	12.1
Filipino	314	240	554	11.7
Other	37	33	70	1.5
Total	2,498	2,188	4,686	100.1

¹ Persons of Spanish origin may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census 1982a: Tables 39 and 40.

Table 5
Composition of Population by Ethnicity and Sex
Kodiak Island Borough, 1980

Ethnicity	Sex		Total	% of Total Population
	Male	Female		
Caucasian	3,978	3,068	7,046	70.9
Black	48	24	72	0.7
Spanish origin ¹	171	133	204	2.1
Aleut	NA	NA	1,710	17.2
Filipino	NA	NA	624	6.3
Other	NA	NA	283	2.9
Total	5,544	4,395	9,939	100.1

¹ Persons of Spanish origin may be of any race.

Source: U.S. Department of Commerce, Bureau of the Census 1982a: Tables 45 and 50.

Table 6
Composition of Population by Ethnicity and Sex -- City of Kodiak, Alaska, 1970

Ethnicity	Sex		Total	% of Total Population
	Male	Female		
Caucasian	1,668	1,426	3,094	81.5
Black	27	17	44	1.2
Indian	32	21	53	1.4
Aleut	244	235	479	12.6
Eskimo	14	17	31	0.8
Other	70	27	97	2.6
Total	2,055	1,743	3,798	100.0

Source: ISER, University of Alaska:1979, cited in Payne 1980:21.

B. Household Size and Composition

A 1988 survey by the Department of Community and Regional Affairs (DCRA) reported average household size by type of structure. This information is presented in Table 7. The information is minimally useful, since the categories are of little interest in talking about the people of Kodiak. Housing in Kodiak has historically been in short supply, and Hill (CDL 1986:378) notes that the first real estate firm in the area did not open until 1975. Even so, few houses were offered for sale prior to 1980, and there were essentially no rentals until 1983. Given this "tight" housing market and a relatively large segment of the population which is transient, it is likely that there are significant differences among Native, White, and Filipino households (to cite three of the identifiable population segments in Kodiak).

Table 7
Household Size, Kodiak, Alaska, 1988

Type of Structure	Average Persons Per Household
Single Family Residence	3.47
Duplex	2.85
Apartment	3.16
Other	2.13

Source: DCRA, 1988.

Tables 8 and 9 are derived from the 1980 U.S. census and further inform the earlier discussion of differences among ethnic groups (White, Aleut, and Filipino) as well as the city of Kodiak/KIB comparison. In general, households are larger within the city of Kodiak than

they are for the same categories in the rest of the KIB except for all Aleut categories and owner-occupied units for Whites. This makes some sort of intrinsic sense, as housing is expensive and in short supply in the city of Kodiak, and those on the tightest budget can be expected to live with the most people. Cultural factors are also important, especially for the Filipinos within the city (Payne 1980:129, 1990 field interviews). The cultural influence may work in the opposite direction for Aleut, where the more "traditional" households may well be in the outer villages rather than in Kodiak (at least that would explain the smaller Aleut households in the city of Kodiak). For both Aleuts and Filipinos, owner-occupied housing units contain the largest households. For Whites within the city of Kodiak (the major rental market), rental units contain the largest households. This again is probably related to cultural factors and economics.

Unit Type	Total Population	Group			
		White	Aleut	Filipino	Black
Year-Round Housing Units	4.2	NA	NA	NA	NA
Occupied Housing units	4.3	3.72	2.62	4.94	3.70
Owner-Occupied Housing Units	5.2	2.61	3.21	6.25	3.00
Renter-Occupied Housing Units	3.5	3.79	2.07	4.19	3.72

Source: U.S. Department of Commerce, Bureau of the Census 1982b: Tables 36, 38, and 39.

Unit Type	Total Population	Group			
		White	Aleut	Filipino	Black
Year-Round Housing Units		NA	NA	NA	NA
Occupied Housing units	NA	2.88	3.18	4.91	2.23
Owner-Occupied Housing Units	3.03	2.81	3.53	6.17	2.17
Renter-Occupied Housing Units	2.49	2.46	2.27	4.20	2.50

Source: U.S. Department of Commerce, Bureau of the Census 1982b: Tables 47, 49, 50, and 51.

C. Educational Status

There are no data in the secondary literature on educational status although there is information on the educational system (time was not available to develop these issues with the school district). The KIB is the entity responsible for providing an education to children in the city of Kodiak. There are three elementary schools, one junior high, and one high

(CDL 1986:401). In addition, there are two parochial schools and a federally funded Headstart program (Payne 1980:122, CDL 1986:402). Borough enrollment for 1988/89 was 2,294 (Kodiak Chamber of Commerce 1989).

Higher education is provided by Kodiak College (formerly Kodiak Community College). The college began operations in 1968 with 95 students and eight classes that were held at the local high school. In 1972 facilities began to develop on designated community college land. By 1984 there were 200 classes being offered and enrollment was 1,300. In 1985, the college offered the G.E.D., vocational, and academic courses leading to the associate degree, and recreational and personal enrichment courses. It also sponsored the Fisheries Institute, which provides fisheries information to Kodiak's fishermen (CDL 1986:402). The college is affiliated with the University of Alaska and averages 25 full-time and 1,000 part-time students a semester (Kodiak Chamber of Commerce 1989).

III. SOCIOECONOMICS

A. Economic Profile

Since the early years of the American era, the late 1800s, Kodiak's economy has been based primarily on the fishing industry. The city of Kodiak became the largest fishing port in the United States in 1968, in terms of dollar volume (Dept. of Interior n.d.:413, cited from Payne 1980:59). Fishing provided 48.2% of Kodiak's civilian wage/salary payments in 1973 and 45.7% in 1974 (Simpson Usher Jones 1977:127). Fish processing has provided from 10 to nearly 40% of the total industrial payroll in Kodiak since 1980 (Table 10). There was an annual average of 1,639 persons engaged in fish processing in Kodiak in 1976. This is estimated to have increased to 2,489 for 1977 (Alaska Consultants 1979:417). Monthly employment in the processing sector is documented below (Table 11). In addition to the processing sector, of course, are the fishermen and their crews. Their activities are not captured in most economic records or measures, but as an example, Kodiak's fish products were worth \$252 million on the wholesale market in 1974. The ex-vessel value of fish that year was \$28.5 million, almost one-fifth of the value of the entire Alaskan catch that year (Payne 1980:59). Between 1977 and 1987 the ex-vessel value of seafood deliveries to Kodiak processing plants averaged 96.3 million dollars. It is estimated that currently 3,200 people work harvesting fish (672 as skipper/owners, 2,500 as crew members). These positions are not covered by state insurance, and so do not show up on labor statistic sheets, but represent an estimated 11 million dollars in crew payroll (in addition to the skipper/owner income). This is about equal to the processing sector payroll (Kodiak Chamber of Commerce 1989). Those sectors of the Kodiak economy not directly engaged in fishing consist largely of support services for the fishing industry, or of enterprises which support the people who engage in fishing activities or its support (Table 10).

Industry	1980	1981	1982	1983	1984	1985	1986	1987
Nonag. Wage & Salary	4,464	4,381	4,399	4,880	4,866	4,688	4,981	4,734
Mining	*	*	*	*	*	*	*	*
Construction	101	136	304	582	342	280	276	196
Manufacturing	1,880	1,547	1,275	1,378	1,473	1,380	1,733	1,569
Food & Kindred Prod. ¹	1,544	1,424	1,167	1,285	1,423	1,326	1,708	1,534
All Other Mfg.	336	123	108	93	50	54	25	35
Trans. Comm. & Utilities	352	320	297	311	298	231	188	222
Trade	611	595	708	723	749	813	757	834
Wholesale	35	17	27	37	35	49	52	50
Retail	576	578	681	686	715	764	706	784
Finance, Ins., & Real Estate	98	95	101	104	103	105	110	106
Services	562	545	570	611	605	641	663	717
Government	1,038	1,051	1,044	1,114	1,165	1,174	1,209	1,061
Federal	286	257	252	253	241	243	243	234
State	207	253	260	273	282	282	266	237
Local	545	541	532	588	643	650	700	610
Miscellaneous	*	*	*	*	*	*	*	*

* Nondisclosable
¹ In Kodiak's case, these figures represent fish processing employment.

Source: Alaska Department of Labor, Research and Analysis Section, 1988.

An extremely detailed description of commercial fishing in the Kodiak-Shumagin Region is provided by Langdon (CDL 1986:5-196), and while it is not possible to reproduce this level of detail here, this work is summarized below. We will sketch the history of Kodiak's fisheries and discuss the economy of these fisheries (both in terms of catch -- see Table 12 - and processing). The reader interested in more detail on a particular aspect of the fishery will likely find it in Langdon.

Table 11
Total Employment and Food Manufacturing Employment¹ in Kodiak Island Borough, 1990 - 1999

Month and Category		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
January	Total Industries Emp	4,101	3,370	3,318	3,925	3,013	3,784	4,100	3,022	4,354	5,120
	Total Industries Units	370	371	370	302	414	397	300	300	354	360
	Manufacturing Food Emp	1,182	777	532	547	720	535	1,014	620	1,008	1,522
	Manufacturing Food Units	27	24	23	25	21	20	19	20	19	21
February	Total Industries Emp	4,402	3,247	3,527	4,260	4,001	4,251	4,510	4,447	4,527	5,832
	Total Industries Units	370	371	370	302	414	397	300	300	354	360
	Manufacturing Food Emp	1,417	540	688	817	708	960	1,262	1,350	1,208	1,056
	Manufacturing Food Units	27	24	23	25	21	20	19	20	19	21
March	Total Industries Emp	4,444	3,050	3,044	4,655	4,607	4,217	4,576	4,798	4,721	6,050
	Total Industries Units	370	371	370	302	414	397	300	300	354	360
	Manufacturing Food Emp	1,310	1,074	912	1,120	1,203	873	1,319	1,052	1,425	2,143
	Manufacturing Food Units	27	24	23	25	21	20	19	20	19	21
April	Total Industries Emp	4,553	4,606	3,832	4,407	4,314	4,381	4,478	4,830	4,288	5,331
	Total Industries Units	375	385	306	390	417	394	360	365	340	422
	Manufacturing Food Emp	1,235	1,640	558	698	845	874	1,110	1,723	834	1,820
	Manufacturing Food Units	25	20	23	24	22	20	18	19	10	20
May	Total Industries Emp	5,118	4,762	3,987	4,483	4,603	4,801	4,746	5,247	4,454	5,070
	Total Industries Units	375	385	386	300	417	394	360	365	340	422
	Manufacturing Food Emp	1,603	1,624	805	766	1,182	1,280	1,241	1,941	907	1,750
	Manufacturing Food Units	25	20	23	24	22	20	19	19	10	20
June	Total Industries Emp	4,856	4,720	4,495	4,761	5,402	5,370	5,193	5,300	4,070	6,582
	Total Industries Units	375	385	388	300	417	394	360	365	340	422
	Manufacturing Food Emp	1,518	1,780	1,130	1,107	1,887	1,801	1,586	2,010	1,104	2,070
	Manufacturing Food Units	25	20	23	24	22	20	19	19	10	20
July	Total Industries Emp	5,318	5,781	5,030	6,533	5,807	5,905	5,028	4,027	5,284	6,020
	Total Industries Units	381	384	382	412	408	395	378	351	358	604
	Manufacturing Food Emp	2,221	2,750	2,548	2,956	2,654	2,757	2,582	1,000	1,901	1,773
	Manufacturing Food Units	26	24	27	22	20	20	19	17	18	21
August	Total Industries Emp	5,709	5,568	5,787	6,285	5,907	5,850	5,937	4,935	5,488	6,969
	Total Industries Units	381	384	382	412	408	395	378	351	358	604
	Manufacturing Food Emp	2,594	2,360	2,365	2,590	2,641	2,709	2,602	1,778	2,011	1,755
	Manufacturing Food Units	26	24	27	22	20	20	19	17	18	21

September	Total Industries Emp	4,406	4,609	5,003	5,621	5,254	5,422	5,057	4,813	5,567	5,697
	Total Industries Units	301	304	302	412	408	395	378	351	359	604
	Manufacturing Food Emp	1,440	1,477	1,406	1,697	1,662	1,936	1,838	1,289	1,957	1,204
	Manufacturing Food Units	26	24	27	22	20	20	19	17	18	21
October	Total Industries Emp	4,400	4,503	4,670	4,668	4,791	4,187	5,290	4,773	5,078	5,112
	Total Industries Units	372	375	398	411	400	402	390	357	360	480
	Manufacturing Food Emp	1,407	1,540	1,210	1,114	1,200	810	2,075	1,430	1,570	1,111
	Manufacturing Food Units	24	26	27	22	20	20	20	18	18	21
November	Total Industries Emp	4,315	3,940	4,407	4,400	4,080	3,970	5,220	4,574	4,954	4,517
	Total Industries Units	372	375	398	411	400	402	390	357	360	480
	Manufacturing Food Emp	1,398	812	1,001	990	1,265	674	2,100	1,270	1,422	721
	Manufacturing Food Units	24	26	27	22	20	20	20	18	18	21
December	Total Industries Emp	3,987	3,447	4,187	4,364	4,554	3,929	4,785	4,488	4,651	4,300
	Total Industries Units	372	375	398	411	400	402	390	357	360	480
	Manufacturing Food Emp	1,038	565	864	890	908	627	1,692	1,223	1,203	497
	Manufacturing Food Units	24	26	27	22	20	20	20	18	18	21
¹ "Food Manufacturing" in Kodiak Island Borough is very concentrated in the city of Kodiak, and mostly reflects employment in fish processing.											
Source: Alaska Department of Labor, Statistical Quarterly, 1980 - 1990 issues.											

Table 12
Yearly Landings, Port of Kodiak, by Year, in terms of pounds (upper) and ex-vessel value (lower).

Year	Species									
	Red King Crab	Tanner Crab	Dungeness Crab	Shrimp	Other Shellfish	Salmon	Herring	Halibut	Groundfish	Total
1977	17,507,126 \$23,843,300	25,213,907 \$0,233,841	113,028 \$33,800	75,381,828 \$0,941,125	— —	55,456,384 \$25,547,447	595,716 \$ 131,058	4,655,000 \$ 6,090,050	692,777 \$ 190,381	170,817,854 \$74,010,200
1978	11,007,191 \$10,700,000	33,271,482 \$14,300,000	1,381,144 \$1,021,000	22,820,135 \$3,785,322	— —	(1) \$32,427,500	1,800,000 \$ 400,000	3,691,000 \$ 6,274,700	2,310,071 \$ 345,000	(1) \$78,233,522
1979	18,310,000 \$18,782,000	29,174,000 \$16,191,000	1,314,000 \$ 943,000	38,283,000 \$5,330,000	2,220,000 \$ 850,500	40,020,000 \$22,130,000	3,711,000 \$2,651,000	2,691,000 \$ 5,731,830	5,743,000 \$ 900,000	150,460,000 \$73,708,330
1980	21,123,055 \$21,123,055	20,371,079 \$11,305,940	2,004,094 \$ 601,842	40,825,576 \$11,039,417	4,535,988 \$2,200,772	101,503,861 \$32,590,125	12,250,000 \$2,400,000	1,827,300 \$ 1,844,050	2,010,442 \$ 520,000	207,411,004 \$84,821,809
1981	21,500,000 \$43,000,000	13,748,829 \$0,200,000	5,800,000 \$4,200,000	21,000,000 \$ 6,100,000	1,270,484 \$1,549,466	95,958,801 \$50,427,200	27,378,800 \$0,098,000	3,448,000 \$ 3,514,820	3,305,098 \$ 500,000	193,214,082 \$132,883,568
1982	8,705,000 \$30,481,000	13,756,000 \$22,687,000	4,546,000 \$3,410,000	10,391,000 \$ 2,942,000	612,000 \$1,427,000	46,481,000 \$17,481,000	3,520,000 \$ 884,000	6,281,000 \$ 6,703,000	8,061,000 \$ 1,424,000	103,283,000 \$96,650,000
1983	104,352 \$365,232	18,927,061 \$23,658,828	4,770,859 \$5,247,724	2,907,197 \$ 1,091,841	172,041 \$ 905,275	34,388,000 \$14,530,000	5,289,000 \$1,053,000	10,090,000 \$11,410,740	8,881,000 \$ 1,550,000	85,516,110 \$60,712,730
1984	1,008,295 \$3,189,828	14,923,185 \$17,547,798	5,342,588 \$7,605,823	5,820,894 \$ 1,870,640	519,387 \$1,451,035	59,745,889 \$24,670,000	4,850,000 \$1,880,000	12,961,000 \$ 9,720,750	7,783,322 \$ 2,015,044	112,432,600 \$69,911,519
1985	670,585 \$2,170,401	12,250,410 \$18,375,815	4,100,435 \$4,992,822	1,892,571 \$ 414,976	2,077,248 \$1,340,115	33,562,374 \$16,758,884	10,245,400 \$3,820,750	15,991,000 \$13,872,305	15,185,500 \$ 3,862,000	96,135,583 \$65,416,560
1986	631,323 \$3,522,223	9,368,454 \$10,048,410	871,145 \$1,117,558	1,084,144 \$ 320,805	1,114,451 \$2,423,805	71,080,800 \$38,006,903	3,401,600 \$1,580,500	17,456,000 \$25,136,640	30,654,900 \$ 4,328,132	138,831,988 \$66,064,778
1987	1,204,513 \$5,209,806	5,139,730 \$13,525,998	1,450,982 \$1,828,750	0 \$ 000	573,688 \$1,640,740	69,007,600 \$63,073,500	7,814,900 \$3,773,100	17,036,000 \$26,016,800	101,828,147 \$17,545,387	203,852,870 \$134,400,235
1988	949,526 \$5,288,000	4,449,088 \$13,525,998	2,125,032 \$2,252,533	— —	1,251,825 \$2,110,834	86,020,000 \$84,075,000	5,134,000 \$2,008,800	18,064,000 \$23,121,820	180,590,000 \$25,400,000	298,581,469 \$168,672,952
1989	885,002 \$4,380,760	5,882,597 \$17,841,920	3,077,937 \$3,385,730	— —	5,244,006 \$5,754,090	36,891,100 \$22,019,200	4,890,515 \$2,064,656	17,000,000 \$22,950,000	134,297,487 \$18,773,613	208,259,604 \$90,189,977

(1) Total pounds for 1978 are unavailable. Total number of salmon landed in 1978 was 3,430,500.

Source: Alaska Department of Fish and Game, Division of Commercial Fish, Kodiak.

Since 1975, over 90% of the income earned from fishing in the Kodiak area has been earned by fishermen from the city of Kodiak (CDL 1986:101-104). The processing capability of the area became increasingly concentrated in the city of Kodiak in this time period as well. The historical summary which follows is derived mainly from a treatment by Langdon (CDL 1986:90-100).

Before 1950, most Kodiak processing facilities were devoted to salmon. Several herring reduction plants closed in the late 1940s. A cold storage plant at Port Williams was the major place where halibut was landed. With the development of the king crab fishery in the 1950s capacity was added by building new plants and expanding old salmon plants to add crab processing capabilities. It was natural to do so since both operations involved canning. The peak was reached in 1966 when 90 million pounds of crab was processed by 32 processors. The number of processors declined to between 12 and 16 in the late 1960s and early 1970s when harvest levels were much lower. At this time several processors made the decision to relocate to Unalaska and Dutch Harbor to be closer to the crab supply. This diverted part of the Bering Sea and Aleutian Island harvest that had been going to Kodiak up to that time.

There were perhaps ten major processors in Kodiak in the early 1970s, nine primarily dealing with salmon and crab and one with fresh fish. An additional, new plant, had been built in 1968 but had not had the time to establish a firm track record as a major processor by the early 1970s. In the middle and late 1970s the rejuvenation of the crab stocks stimulated expansion at most of the established plants, and the construction of two new plants. One important addition most plants made was increased freezing capacity. This added to a plant's flexibility by increasing the number of species it could process simultaneously and by diversifying the forms of product the plant could produce. Frozen product is easier to store than fresh and provides an option to canning (which has dubious consumer demand anyway). Many plants had been limited by having too few freezers to handle the volume of fish that was available. While individual plants may still need additional freezer capacity, for the most part, Kodiak plants are reasonable well equipped. An additional benefit of more freezer space has been to import salmon harvested in other parts of the state, thus keeping their lines busy rather than shutting them down when the fishing around Kodiak is relatively poor. Expansion of floor space and freezers continued through the early 1980s.

There were signs as early as 1979 that the fisheries were headed for another decline, however, as the rate of return for Kodiak plants declined due to increased competition for the resource. Crab stocks were also in trouble (probably as a result of several years of overharvesting) and the salmon pack in 1982 had a botulism problem. Fishermen and processors began to look around for other fisheries to develop and other products to produce. Several processors changed hands, including one which was purchased by a group of local Kodiak fishermen.

Starting in 1981, major efforts were made to develop the Pacific cod groundfish fishery. Langdon in 1985 noted that this had not as yet borne much fruit and that several plants had gone out of production (CDL 1986:92-93). Langdon implies but does not establish that foreign investment may have increased in Kodiak shore processing plants at this time and was one of the factors affecting which plants remained open and which ones did not (CDL 1986:93). Langdon also noted that there was a deep split among fishermen and processors as to whether groundfish were a viable option to crab and other high-value species (CDL 1986:94).

It is quite interesting that Langdon's work was done in 1985, the trough or low point in Kodiak's fisheries economy (in terms of processing employees, total processing payroll, overall dollar value of seafood harvest). The harbor was expanded in 1985 and there are reports that there was excess capacity for a time. However, according to several processors we talked to, serious development of the groundfish resource did not start until 1985 and 1986. Once it was established that groundfish operations were viable, investment was very rapid. At present, informants say there are three major groundfish processors in Kodiak (two with surimi operations) and several other plants with significant groundfish capability. It is also clear that the harbor is very busy and that at present there is no excess capacity.

1. The Gulf of Alaska Groundfish Fishery

One important aspect of the development of the groundfish fishery in Kodiak has been left out above. Before 1980, essentially foreign fishermen alone fished (many would say overfished) the groundfish resource. The passage of the Magnuson Act in 1976 extended the jurisdiction of the United States over marine resources 200 miles offshore and established a priority for Americans to take the fish in those waters. This was one incentive for fishermen and processors to develop this resource -- they had a subsidy in the form of reduced competition from the foreign fleet. The bridging mechanism between totally foreign harvest and processing of the fish resource and the "Americanization" of this process were joint venture operations. These were essentially contracts between American catcher boats and foreign processors whereby the American boats caught the fish and transferred them at sea to the foreign vessel. The Total Allowable Catch (TAC) was set aside for American fishermen and processors, but any of the TAC not used by this Domestic Annual Production (DAP) was usable by the Joint Venture Production (JVP) operations. In turn, any of the TAC still left was then available as the Total Allowable Level of Foreign Fishing (TALFF). As can be seen by Tables 13 and 14, the TAC very rapidly changed from being TALFF dominated to 100 percent DAP.

From Tables 15 and 16 above it is obvious that there is a significant offshore component to the Gulf of Alaska groundfish fishery. Just as clearly there has been an increase in the total amount of the Gulf of Alaska TAC that has been directed towards Kodiak shore processors. What was a very small percentage of the catch in 1986 had grown in 1989 to half of the cod taken and somewhat less than half of the pollock. There was no doubt in the minds of our

Kodiak informants (fish processors, fishermen, fishermen's association members/officers) that the Kodiak-based fleet is capable of taking the entire Gulf of Alaska groundfish quota and that the shore based plants in Kodiak have the capability to process it. They note that what has prevented this from happening in the past is that the present quota is administered so that factory ships can come into the Gulf of Alaska and harvest a significant portion of the quota. This has resulted in the idling of part of the Kodiak shore-based fleet for part of the year, and the operation of most of the Kodiak shore-based fish processing plants at less than full capacity (especially the large, and recent, surimi plants). The Gulf of Alaska had been administered as an annual quota for pollock in 1989, but was changed to a quarterly system for 1990. Informants cited the experience of having large factory ships harvest half of the 1989 quota in a short time, leaving the Kodiak shore-based fleet (and the Kodiak shore-based processors) with little to do. Several processors maintain that this, combined with problems from previous years, has made it difficult to maintain a stable, qualified, dependable labor force. Comparing the two years and the dates of fishery (or gear) closures in each, Table 16 indicates that both cod and pollock can be a year-round resource if managed with that as an objective. Kodiak shore-based processors say that this is essential if they are to be able to manage production in a rational and predictable way which allows for the continued existence of a stable local labor force.

Table 13A
Annual Cod Catch, Gulf of Alaska, by Year
and Fisheries Category (Tons)
1983 - 1990

Year	Fishery Category			
	TALFF	JVP	DAP	Total
1983	29,777	2,426	4,198	36,401
1984	15,896	4,649	3,231	23,776
1985	9,086	2,266	2,954	14,306
1986	15,211	1,357	8,045	24,613
1987	0.0	1,978	29,454	31,432
1988	0.0	1,661	30,896	32,557
1989	0.0	0.0	41,676	41,676
1990	0.0	0.0	67,122	67,122

Table 13B
Historic Catch of Cod, Gulf of Alaska,
by Year and Area (Metric Tons)
1977 - 1990

Year	NPFMC Area	
	Central Gulf of Alaska	Western Gulf of Alaska
1977	1,200	600
1978	6,200	5,600
1979	10,400	4,000
1980	24,500	8,700
1981	22,100	11,600
1982	19,900	7,300
1983	25,200	9,200
1984	11,900	11,200
1985	5,900	8,400
1986	8,100	12,600
1987	24,000	1,700
1988	23,800	4,500
1989	27,600	13,800
1990	37,100	30,000

Source: CDL 1986:25 and Alaska Groundfish Data Bank 1990:2

Table 14
Gulf of Alaska Annual Pollock Catch by
Fisheries Category (1,000 Metric Tons),
1977 - 1990

Year	Fishery Category			
	TALFF	JVP	DAP	Total
1977	120.4	---	---	120.4
1978	96.3	---	---	96.3
1979	103.2	---	4.5	107.7
1980	113.0	1.1	2.2	116.3
1981	130.3	16.9	1.8	149.0
1982	92.6	73.9	2.2	168.8
1983	81.4	134.1	0.1	215.6
1984	NA	172.6	NA	NA
1985	31.6	237.9	15.4	284.9
1986	0.1	62.6	10.1	72.8
1987	0.0	22.8	39.7	62.5
1988	0.0	0.2	55.8	56.0
1989	0.0	0.0	72.3	72.3
1990	0.0	0.0	79.6	79.6

Source: CDL 1986:98 and Alaska Groundfish Data Bank 1990:1

Table 15
Groundfish Landings (Tons)
Port of Kodiak, 1986

Fish Species	Total Tons
Pollock	6,529
Pacific Cod	2,577
Flounder	266
Rockfish	40
Thornyheads	28
Other Species	7

Source: Alaska Groundfish Data Bank 1990:6).

Table 16
Groundfish Fish Landings Port of Kodiak, 1989
Metric Tons

Month	Fish Species					
	Pacific Cod		Pollock		Flounder	
	Tons	Boats	Tons	Boats	Tons	Boats
January	346	28	3,922	23	56	15
February	2,410	37	11,591	31	412	23
March	5,725	54	9,065	32	425	31
April	2,485	28	0	0	466	18
May	1,541	29	0	0	504	7
June	2,963	18	0	0	202	7
July	2,645	14	****	<4	163	10
August	1,450	17	****	<4	72	6
September	121	24	7,290	12	0	0
October	100	24	1,243	11	0	0
November	163	11	****	<4	****	<4
December	219	14	0	0	0	0
Total	20,168	---	33,111	---	2,300	---

**** information withheld, less than 4 boats delivered.

Source: Alaska Groundfish Data Bank 1990:6.

Year	Area	Time	Closure Date	Cause
1989	Western and Central Gulf	First Apportionment (annual)	03/23/89	quota caught
		Second Apportionment (09/15/89)	10/01/89	quota caught
1990	Western and Central Gulf	First Quarter	01/26/90	quota caught
		Second Quarter	---	remained open
		Third Quarter	---	remained open
	Fourth Quarter	10/19/90	quota caught	
	Shelikof Straits	First Quarter	02/28/90	quota caught

Year	Area	Closure Date	Cause
1989	Western Gulf	09/23/89	quota caught
	Central Gulf	09/02/89	Halibut bycatch
1990	Western Gulf	04/28/90	quota caught
	Central Gulf	11/21/90*	Halibut bycatch

* Closed from 05/29/90 - 06/30/90 due to miscalculation by NMFS of the second quarter Halibut bycatch cap.

Source: Alaska Groundfish Data Bank 1990:4.

Table 17 also illustrates several other points. The Pacific cod fishery is administered in two units in the Gulf of Alaska. The Western Gulf usually has a smaller part of the allocation than the Central Gulf because a smaller portion of the resource reaches that area. While the Western quota is usually taken in full, the Central Gulf allocation has not been fully taken due to lack of market demand. More recently the allocation has not been fully taken because the halibut bycatch cap for hook and line fisheries is usually reached before the TAC of Pacific cod is achieved. Kodiak fishermen perceive this as a very serious problem. This especially affects those working in the developing pot fishery for Pacific cod (which reportedly has a very low bycatch rate). Until pot gear was exempt in the 1990 and 1991 seasons, fishermen were being made to use an artificially high bycatch rate because there was not enough information to establish a valid bycatch rate in this fishery.

The pollock quota displays a different problem. The quota is almost always achieved. The problem is one of timing. Last year the Gulf of Alaska quota was caught in the first three months of the year, and only a small second apportionment allowed any further pollock harvest. In 1990, the first quarter's quota did not even last a full month (pollock in the first part of the year are targeted for roe). The second and third quarters remained open. Most

plants prefer not to take pollock in the second quarter, since the quality is lower (especially for surimi). In 1990, many of the groundfish operations did not start up again for pollock until late in the third quarter, and simply continued on into the fourth. Hence, the open second and third quarters are somewhat misleading. The fourth quarter was unexpectedly closed when several ships from the Bering Sea fleet entered the Gulf of Alaska after the Bering Sea was closed for pollock. They fished for several days and harvested the remainder of the Gulf of Alaska allocation. This occurred a week to ten days before the Kodiak shore based plants had anticipated this happening.

2. Plant Operation and the Labor Force

Ideally, processing plants want to operate year-round. This allows them to avoid peaks and valleys in production, to schedule the work force with product intake, and manage production in a predictable way. These managers made the generalization that the wider the fluctuations from an even production flow, the more inefficient operations tend to be, other things being equal. The major problem with current fishery management practices, as voiced by most plant managers, is that they do not lead to a predictable fishery. They cannot foresee how many days of fish deliveries there will be for any one species, which leads to a "derby fishery" mentality. Kodiak fishermen have seen this happen in halibut and salmon, and are anxious that something similar not happen with groundfish. Plant managers constantly made the point that groundfish are not all that profitable. However, the fact that groundfish can maintain a processing plant on a year-round basis is attractive. Groundfish are perceived as the stabilizing resource for the fishery as a whole. Their abundance and availability means they could be used to fill in production when other, more variable though usually higher-valued, species are not available. One manager gave a very rough example. He figures on maybe 60 salmon processing days a year. Every day that the halibut season is open he figures the plant will process for four days (but halibut openings are quite variable). He says there may be as few as three or as many as 15 black cod processing days. The number of processing days for Pacific cod is unpredictable. Pacific cod are mainly processed by this plant from September through December or January through March (this is also the best period for surimi made from pollock). Pollock were not an effective buffer in 1990. This plant operated its surimi plant 33 days the first quarter, 15 days the second quarter, and 35 days for the third and fourth quarters.

Most plant managers say that the end of the year is always the slowest time of the year. Fisheries tend to be closed and fewer resources are available. The payroll figures for the last ten years for the processing sector certainly bears this out (Table 18). The second and third quarters are regularly the largest, probably because of salmon and halibut.

Table 11, which tracks food manufacturing jobs by month for the past ten years reveals the same pattern in more detail, and with some finer variation. July and August tend to be the months of highest employment. Months of lowest employment are more variable from year-to-year, with December through February as the most common low months.

Most Kodiak plant managers said that most, if not all, of their employees were local. They exempted summer work from this, as all plants hire temporary workers from the outside during the summer. Some plants do not hire too many, however, and most plants in Kodiak do not have worker housing. Most plant managers characterized their employees as Filipino, dependable, and stable.

Table 10
Total Payroll and Food Manufacturing Payroll¹ by Quarter
Kodiak, Alaska, 1990 - 1998

Year	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
	Total Payroll	Food Man. Payroll	Total Payroll	Food Man. Payroll	Total Payroll	Food Man. Payroll	Total Payroll	Food Man. Payroll
1990	18,300,925	3,785,815	21,425,533	5,150,097	20,325,794	8,672,403	10,307,482	4,140,587
1991	16,080,875	2,291,158	21,351,835	5,010,004	20,400,588	11,138,100	20,010,655	3,500,504
1992	17,798,463	2,095,541	22,538,064	3,670,225	32,089,000	10,240,062	20,037,327	2,203,409
1993	23,541,758	2,395,170	28,600,472	2,800,192	37,071,283	8,320,878	27,278,577	1,500,047
1994	24,821,079	2,385,401	27,350,083	3,858,889	33,281,259	8,701,178	22,817,127	1,822,811
1995	22,155,130	2,854,461	25,170,995	3,741,634	28,222,207	7,904,804	21,508,883	1,804,156
1996	20,883,128	2,486,727	23,229,033	3,104,188	30,250,623	8,840,226	22,470,375	2,715,435
1997	22,021,828	3,881,379	23,990,778	4,287,433	28,728,474	8,808,209	25,078,619	4,817,430
1998	23,887,335	4,500,844	25,214,451	4,178,433	20,810,388	7,442,451	25,842,091	3,978,457
1998	28,447,287	6,083,190	30,298,328	5,558,224	58,421,355	8,888,412	28,768,188	3,380,820

¹Food Manufacturing* in Kodiak Island Borough is very concentrated in the city of Kodiak, and mostly reflects employment in fish processing.

3. Fishery Issues and Characterizations

The Kodiak fishery is very diverse. Table 12 gives some indication of the different resources pursued, and how they can vary in importance from year to year. Another way to present similar information (the numbers are not exactly the same) can be seen in Tables 19, 20, and 21 -- total pounds of fish caught and estimated earnings for 1986 - 1988. The advantage of this presentation is that it lists catch by gear type and sometimes by vessel size. The information is only approximate, but for comparative purposes is quite useful.

One misrepresentation that such tables can produce, however, is that individual fishermen fit inside single cells of such a table. In Kodiak, such a fisherman would be rare. Just as plant managers consistently talked about the variability in the way that different plants operated and the need to be flexible, so nearly all Kodiak fishermen reportedly share the philosophy that a fisherman needs to be adaptable (again, nearly all fishermen, processors, and fishermen's association members/officers stressed this point). Part of the sentiment these informants expressed against limited entry permits, IFQs, and similar devices is that, in their view, they take away the opportunity for an individual to move from one fishery to another, should the need arise by making access to the fishery expensive, assuming that a permit is available on the market at all. They say that a privileged class of fishermen is created and protected from at least some of the competitive forces of the market place. These informants also perceive these regulatory devices as potentially rewarding relatively unsuccessful fishermen who have merely been persistent as much as they reward those individuals who have historically been considered "highliners." In any event, anything that looks at all like limited entry for any fishery would appear to find little support in Kodiak. It should be noted that no "salmon specialists" were interviewed due to lack of time, but most fishermen interviewed were ambivalent about limited entry even in the salmon fishery, and the UFMA official was not enthused about limited entry in any fishery other than salmon. Again, informants said that it has their experience that no fishery lasts forever and that a successful fisherman is the one who is not afraid, and not prevented by regulations or economics, from trying something new.

Thus, few fishermen in Kodiak would favor the privatization of any onshore allocations that are made. Few people even brought up the mechanisms for allocation that would be used - all seemed to assume that any inshore allocation would be taken by local Kodiak boats and delivered to Kodiak shore based plants. Kodiak is in the enviable position that it has both the harvesting and the processing capacity to handle the full Gulf of Alaska pollock and Pacific cod allocations. Most people assume that, given protection from offshore harvester/processors, competition among the remaining harvesters will determine who catches the fish and where they are delivered with a minimum of additional regulation, while maintaining the health of the resources.

Not all trawlers are perceived as evil in Kodiak. Mid-water trawlers are the preferred form for most people, but bottom trawlers are also accepted in the proper context. The recovery of the crab fishery is a priority with most local fishermen, so that they support a no bottom trawl zone around Kodiak.

Table 19
Kodiak Fishing Activity by Species and Gear Type, 1986^a

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, hand troll	6	6	>854	>\$1,235
Halibut, longline vessel <5 tons	89	89	216,086	\$312,460
Halibut, longline vessel ≥5 tons	266	266	14,842,575	\$21,413,255
Sablefish, Otter trawl	12	12	301,956	\$150,543
Sablefish, longline >5 tons	59	59	>2,681,511	\$2,409,126
Sablefish, pots, vessel >50'	10	10	912,281	\$743,071
Dungeness Crab, pots, vessel ≤50'	53	53	NA	NA
Dungeness Crab, pots, vessel >50'	11	11	205,344	\$236,146
Herring, purse seine	93	92	11,149,551	\$3,704,482
Herring, beach seine	1	1	NA	NA
Herring, gill net	42	42	>525,806	>\$239,768
Herring, Otter Trawl	1	1	NA	NA
King Crab, pots, vessel >50'	65	65	3,846,161	\$13,778,017
Saltwater Finfish, longline <5 tons	5	5	188,285	\$27,946
Saltwater Finfish, Otter trawl	29	29	54,820,998	\$2,989,437
Saltwater Finfish, pots, vessel <50'	1	1	NA	NA
Saltwater Finfish, pots, vessel >50'	1	1	NA	NA
Saltwater Finfish, longline ≥5 tons	79	79	2,696,666	\$454,393
Shrimp, various methods	3	3	NA	NA
Salmon, beach seine	6	6	357,174	\$84,165
Salmon, purse seine	154	150	>26,564,372	>\$13,707,037
Salmon, drift gill net	40	40	>1,962,016	>\$2,526,448
Salmon, set gill net	118	116	>10,024,895	>\$6,993,958
Salmon, troll	2	2	NA	NA
Tanner Crab, pots, vessel ≤50'	86	86	>1,815,290	>\$3,340,134
Tanner Crab, pots, vessel >50'	94	94	>6,487,422	>\$9,306,273
Scallops, dredge	4	4	234,264	\$908,815
City Totals	688	1,333^c	143,081,081^e	\$85,381,151^e

^aTotal pounds caught was 143,081,081; pounds specifically accounted for was 140,437,851 (98.2%). Total value of catch was \$85,381,151; with \$84,011,120 (98.4%) being accounted for specifically.

^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.

^cThe city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.

Source: ADF&G, Commercial Fisheries Entry Commission 1989.

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, hand troll	7	7	>1,497	>\$2,175
Halibut, longline vessel <5 tons	101	101	>172,352	>\$250,426
Halibut, longline vessel ≥5 tons	300	300	13,676,131	\$19,693,385
Sablefish, Otter trawl	3	3	NA	NA
Sablefish, longline >5 tons	69	69	4,094,669	>\$1,244,825
Sablefish, pots, vessel >50'	1	1	NA	NA
Dungeness Crab, pots, vessel ≤50'	29	29	>539,268	>\$682,175
Dungeness Crab, pots, vessel >50'	8	8	858,358	\$1,085,823
Herring, purse seine	77	77	>12,869,825	\$5,637,045
Herring, gill net	39	39	>585,789	>\$375,475
Herring, Otter Trawl	1	1	NA	NA
King Crab, pots, vessel ≤50'	1	1	NA	NA
King Crab, pots, vessel >50'	87	87	>4,600,540	\$15,267,003
Herring Spawn on Kelp, diving	1	1	NA	NA
Herring Spawn on Kelp, pound	2	2	NA	NA
Saltwater Finfish, purse seine	1	1	NA	NA
Saltwater Finfish, set gill net	2	2	NA	NA
Saltwater Finfish, hand troll	3	3	NA	NA
Saltwater Finfish, longline <5 tons	18	18	336,227	NA
Saltwater Finfish, Otter trawl	54	54	67,900,619	NA
Saltwater Finfish, pots, vessel >50'	8	8	>1,009,122	NA
Saltwater Finfish, longline ≥5 tons	162	162	8,046,013	NA
Clams, shovel	2	2	NA	NA
Salmon, beach seine	12	11	339,547	\$159,220
Salmon, purse seine	160	158	>15,055,537	>\$14,441,222
Salmon, drift gill net	33	33	>1,636,833	>\$2,296,251
Salmon, set gill net	117	111	>4,020,711	>\$4,204,998
Salmon, power troll	1	1	NA	NA
Tanner Crab, pots, vessel ≤50'	82	82	>1,328,087	>\$3,259,126
Tanner Crab, pots, vessel >50'	94	94	>13,871,335	>\$15,123,070
Scallops, dredge	1	1	NA	NA
City Totals	750	1,482^c	152,985,197^c	NA

^a Total pounds harvested was 152,985,197; of this, 150,954,550 (98.7%) is accounted for specifically. No total given for value of harvest and specific harvests not always evaluated in terms of earnings.

^b This column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.

^c The city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.

Source: ADF&G, Commercial Fisheries Entry Commission 1989.

Species and Gear Type	# of Permits Holders ^b	Permits Flshed	Pounds Caught	Est. Gross Earnings
Halibut, hand troll	6	6	1,373	NA
Halibut, longline vessel <5 tons	108	108	261,904	NA
Halibut, longline vessel ≥5 tons	300	300	13,909,827	NA
Sablefish, Otter trawl	2	2	NA	NA
Sablefish, longline >5 tons	51	51	>3,243,905	>\$1,062,016
Dungeness Crab, pots, vessel ≤50'	37	37	737,930	\$788,847
Dungeness Crab, pots, vessel >50'	15	15	>1,254,234	>\$1,340,776
Herring, purse seine	71	71	>8,446,286	\$5,105,035
Herring, gill net	43	43	>1,110,170	>\$685,568
Herring, Otter Trawl	1	1	NA	NA
King Crab, pots, vessel >50'	70	70	>2,786,291	\$11,559,073
Herring Spawn on Kelp, diving	1	1	NA	NA
Saltwater Finfish, set gill net	6	6	98,007	\$18,385
Saltwater Finfish, hand troll	1	1	NA	NA
Saltwater Finfish, longline <5 tons	12	12	>159,571	>\$32,112
Saltwater Finfish, Otter trawl	66	66	70,546,952	NA
Saltwater Finfish, pots, vessel ≤50'	12	12	627,719	\$116,756
Saltwater Finfish, pots, vessel >50'	11	11	908,598	\$151,504
Saltwater Finfish, longline ≥5 tons	84	84	3,100,474	>\$527,255
Saltwater Finfish, other	3	3	NA	NA
Clams, shovel	2	2	NA	NA
Salmon, beach seine	14	13	595,725	\$530,270
Salmon, purse seine	162	160	>36,067,653	>\$41,311,497
Salmon, drift gill net	37	37	>1,880,705	>\$3,715,584
Salmon, set gill net	114	109	>8,436,188	>\$11,691,247
Salmon, hand troll	1	1	NA	NA
Tanner Crab, pots, vessel ≤50'	94	94	>1,382,471	>\$3,335,903
Tanner Crab, pots, vessel >50'	102	102	>16,920,308	>\$18,455,288
Scallops, dredge	2	2	NA	NA
City Totals	752	1,454^c	174,070,595^d	NA

^aTotal pounds harvested was 174,070,595; of this, 172,569,588 (98.9%) is accounted for specifically. No total given for value of harvest and specific harvests not always evaluated in terms of earnings. Those subtotals given add up to \$100,514,442.

^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.

^cThe city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.

Source: ADF&G, Commercial Fisheries Entry Commission 1989.

B. Infrastructure

Home and business heating fuel deliveries are made by Thompson Transfer and Kodiak Oil Sales. Marine fuels are available from Petro Marine and North Pacific Fuel. (North Pacific Fuel also has fresh water available year-round.) Aviation fuel is available from Petro Marine. Bulk sales of automobile fuels are made by Petro Marine and North Pacific Fuel.

The Kodiak State Airport has three paved runways of various lengths with FAA tower services. Regular scheduled services are provided by ERA Aviation, MarkAir, and Peninsula Airways; charter services are also available. Kodiak also features a municipal airport with a 2,883 foot gravel runway. The city has plans to pave this airstrip. No tower services are available. In addition, there are floatplane facilities at Lilly Lake and St. Paul Harbor.

The city of Kodiak and Alaska State Troopers provide police protection for the island residents. Fire protection is provided by the city of Kodiak, Bayside Fire Department, and Women's Bay Fire Department. The 13 city firefighters are also certified Emergency Medical Technicians; the city also has a nine-member Dive/Rescue team. The city maintains a public parks and campground with shower and restroom facilities.

III. SOCIOCULTURAL PROFILE

A. Social Organization

This section examines the types of formal governing institutions in Kodiak. These include local, state, and federal governments, quasi-governmental institutions such as Native corporations and fishing groups, and social service provider organizations.

1. Government

Kodiak was incorporated as a first class city in 1940. It is a home-rule city with a city manager/council form of government. There are six members on the city council, plus the mayor. There are eight departments in the municipality. They include: public works, finance, city engineering, parks & recreation, library, fire department, police department, and cargo dock/boat harbor. The city firefighters are also certified EMTs. The Bayside Fire Department and the Women's Bay Fire Department supplement the Kodiak City Fire Department. The city also has a dive/rescue team.

All services that are not provided by the city of Kodiak are provided by the KIB. The KIB is a second class borough with an elected strong Mayor and Assembly form of government. The KIB has 15 recreational facilities spread over 223 acres, and a boat launch located at Anton Larsen. The city of Kodiak and the Borough both provide animal control officers and facilities. Real and property taxes are administered through the KIB.

The presence of the state of Alaska in Kodiak is primarily in the form of the Department of Fish and Game. Their role is to manage and regulate the fisheries in the region. Other State agencies in Kodiak are: Health and Social Services, Employment Center, Legislative Information, District Attorney, Public Defender, Vocational Rehabilitation, Department of Corrections, Adult Probation & Parole, Environmental Conservation, Alaska State Court System, Community and Regional Affairs, National Guard, SW District Parks Division, and the Department of Transportation & Public Facilities.

The federal agencies with the largest exposure in Kodiak are the Coast Guard and the National Oceanic and Atmospheric Administration (NOAA). NOAA divisions include the National Weather Service, National Ocean Survey, and National Marine Fisheries Service. The agency also performs duties related to the maritime environment, such as coastal zone management and marine mammals protection. Also located in Kodiak, but with a more limited presence, are the Federal Aviation Administration (FAA), the United States Forest Service, and the United States Postal Service (Payne 1980:93).

2. Quasi-Governmental, Regulatory, and Industry Associations

The Native organizations that serve the Kodiak Island region are the Kodiak Area Native Association (KANA) and Koniag, Inc. KANA is a non-profit organization that was formed in 1966 whose main purpose is to:

. . . promote pride on the part of Natives of Alaska in their heritage and traditions; to preserve the customs, folklore and art of the Native races; to promote the physical economic and social well-being of the Natives of Kodiak; to discourage and overcome racial prejudice and the inequities which such prejudice creates; to promote good government by reminding those who govern and those governed of their joint and mutual responsibilities (KANA Newsletter 2:8, November 1978).

In practice, KANA provides direct social services such as health promotion, advocacy, community development planning, education, and manpower to Natives in its coverage area through grants primarily from the State and federal governments (Davis 1979:62).

Koniag, Inc. is the Native Corporation formed after the passage of the Alaska Native Claims Settlement Act (ANCSA). All shareholders of Koniag, Inc. are Natives from the Kodiak area. The mandate of the corporation is to invest and reinvest funds it receives from the Alaska Native Fund and other sources. In 1978, the corporation owned a store for fishing and navigational equipment, two construction companies, an accounting firm, a helicopter, the Cape Chiniak "impact center" (a former Air Force satellite tracking station planned for use as a skill training center), and was part of a consortium with other Native Corporations in a shipping company and the Alpetco petrochemical venture (Davis 1979:63).

The city of Kodiak has quite a few special interest groups. Not surprisingly, they are mostly organizations that represent the interests of the fishermen. The following discussion of the various fishing-related organizations has been extracted from Payne 1980 (pp. 94-96) and the chapter by Payne in CDL 1986 (pp. 253-254). The main organizations in 1980 were the Alaska Shrimp Trawler's Association (ASTA) (shrimp and bottomfish), the United Fishermen's Marketing Association (UFMA) (crab and salmon), a small boat halibut association, and the Kodiak Island Setnetter's Association (salmon gillnetters) (Payne 1980:94).

In the early 1980s the Alaska Shrimp Trawler's Association and the United Fishermen's Marketing Association were the two largest fishermen's organizations and both represented their members in two areas. First, they were formed primarily to negotiate with the canneries on prices paid to fishermen for their catch. These organizations are not unions, however, and members have never gone on strike. There have been "tie-ups" or "price disputes." This function has become somewhat secondary given the rise in regulation of the

fisheries and the different interests that may be represented within the same organization. Secondly, these organizations monitor activities and proposed legislation affecting fishermen. Members of these organizations attend most meetings of the State Board of Fisheries and North Pacific Fishery Management Council, where fishing regulations and management policies are developed. In some cases, members have served on these boards.

Since certain fisheries have declined substantially since 1980 and others have developed, the structure and function of these organizations have changed and new organizations have been formed. For instance, the UFMA gained many members in the king crab surge of the late 1970s and early 1980s. But with the demise of that fishery membership had declined by the mid-1980s to a level almost identical to the pre-boom days (CDL 1986:453). It mainly represented salmon and crab fishermen. In contrast, the ASTA expanded its membership to include bottomfish fishermen as opportunities in that sector opened up and the local shrimp fishery declined. The group is currently called the Alaska Draggers' Association (ADA). In addition, there is the Kodiak Longline Vessel Owners' Association described below. Together, these groups may be considered the main fishermen's associations in Kodiak. The UFMA has become an even more diverse organization, representing fishermen engaged in many different fisheries. This is apparently a reflection of the present need for most of their members to participate in multi-species (crab, halibut, Pacific cod, sablefish, salmon) fisheries if they are to make a living as fishermen, and their continued exploration and development of new opportunities (the pot fishery for Pacific cod appears to be the latest such endeavor). The director of the UFMA reports that while the UFMA's membership is only a small percentage of the total fishermen in Kodiak, that it is the more successful fishermen who are members. A few trawlers do belong to this organization, but only a few. The ADA is the main representative for the trawlers, who concentrate on the bottomfish fishery. Both organizations are statewide in their interests and representation, but the UFMA is more focused on Kodiak than is the ADA.

The Kodiak Halibut Fisheries Association (KHFA) gained strength between the decline in the crab and shrimp fisheries and the middle 1980s (CDL 1986:454). The group was concerned with regulation and management of the halibut fishery as that fishery gained in significance. The most important issue in this regard was limited entry, which members of KHFA adamantly opposed. Like the Alaska Coastal Community Alliance (discussed below), KHFA sought ". . . to assure open fisheries in order to protect what they see as the individual fishermen's flexibility to enter different harvests, [and] is concerned about the incidental catch of foreign drag fleets, quality control, local management, increased allotments, and short seasons distributed over the years" (CDL 1986:454). After the regulatory issues in the halibut fishery were decided, and most fishermen who participated in the halibut fishery found that they needed to participate in other fisheries as well, this organization lost some of its primacy. The UFMA, as already representing multi-species fishermen, was in a position to take over much of the representational role of the KHFA, which as a single limited interest group was in a less favorable position. Informants in 1990 did not even know if this group still existed. The KHFA is not listed in the Kodiak phone book.

The Kodiak Longliner Vessel Owners' Association (KLVOA) was formed about three years ago and as the name implies is restricted to longliners. It was formed to support longliners interests on such issues as the halibut cap (which includes the target fishery as well as bycatch allocations), limited access, and other matters. There are presently about 12 members (representing more than 12 boats, however), who are typified as the more successful longliners. Some are also members of UFMA, but say that they felt the need for an association more narrowly focussed on their interests than is possible for the UFMA. Members are not strictly longliners (halibut, sablefish), as most have been forced by closures to diversify into the pot fishery (for Pacific cod). Many are also crabbers. Their central identity is as longliners, however, and the halibut bycatch issue seem to be primary. This has been a bone of contention among local different gear type users (longline, pot, trawl) in the past (CDL 1986:455), and continues to be an issue in the present. However, most informants report a spirit of cooperation among all local fishermen and a resolve to reduce bycatch in *all* fisheries as much as possible. The continuing bycatch problem as they see it is the factory catcher/processor fleet, which has shown little willingness to address the bycatch problem. This is one of the issues discussed below at somewhat greater length.

The Alaska Groundfish Data Bank (AGDB) serves as a clearing house for information for the trawler fleet and the fish processors of Kodiak, and is supported by its members (many of the processing plants and a segment of the trawler fleet). The AGDB is often seen as a spokesman for this segment of Kodiak's fishery, although this is not its official role. The AGDB gathers information about fishing activities and regulations likely to affect this activity, disseminates it to its members, and lobbies on their behalf when instructed to do so. The AGDB's clients are mainly in and around the Kodiak area, but future plans are to attract a wider base of clients.

The Kodiak Island Setnetter's Association (KISA) is a parent organization for three regional setnetter associations: Olga Bay/Moser Peninsula Area, Uganik Bay Area and the Larsen Bay Area. While the fishermen share many of the same concerns, the regional associations were formed because most setnetters live during the summers in cabins at their setnet site. During the winter KISA the three regional organizations. KISA does not negotiate fish prices for its members -- members do this individually. Rather, their main function is to watch out for the special interests of the setnetters (Payne 1980:95). Since the focus of these organizations is salmon, they were not contacted during the limited field time available. Similarly, a seiners' association exists, but was not contacted.

In 1980, the other organizations related to the fishing industry included: the Alaskan Fishermen's Union representing some cannery workers (but the majority of Kodiak's processor are not unionized); the Kodiak Seafood Processors Association (KSPA) composed of and representing the processors in Kodiak; the Kodiak Fishermen's Wives Association, and the Alaska Coastal Communities Alliance (ACCA). None of these appear in the 1990 Kodiak phone book and they appear to be less active than in 1985, when Payne did his work (CDL 1986:451-453). It is possible that the KSPA has in essence become the AGDB. The KFWA, which was organized in 1967, represented the interested of the fishermen's wives

and their fishermen husbands by "monitoring fishery concerns and implementing political action relating to these concerns" (CDL 1986:452). Much of this activity may have been assumed by other organizations, although the group may still exist. The ACCA was formed in 1985 in response to the decline of the fisheries. It was the position of the ACCA ". . . that a fishing community's economic health depends on its fishing fleet's fiscal stability, which is dependent on its flexibility and ability to accommodate (Alaska Coastal Community Alliance, n.d.) to the fluctuating conditions of natural cycles, fishing effort resource management, and individual species abundance" (Payne 1986:451). ACCA was opposed to management strategies that they say affect resource allocation, such as limited entry, as opposed to resource conservation. "Thus they prefer practices such as the regulation of season time, opening length, size and sex restrictions, gear limitations, and area quotas" (CDL 1986:451). It is likely that the aims of this group were also taken up by other organizations and that, as a formal entity, the life of the ACCA was short. Such volatility in the structure of fishermen's organizations reflects the rapid change in the fisheries themselves and the changing issues which drive them.

In addition to these groups, the Filipino community in Kodiak has organized for both social and political purposes. The first Filipino organization formed in 1973 and was called the Filipino Association of Kodiak Alaska (FAKA). They mainly served as a nucleus for social events. However, after a few years membership waned and the group became inactive. In 1977 another group was formed whose purpose was more political. They were called the Filipino Community of Kodiak Alaska and their goals were to improve the life of Filipinos in Kodiak and improve relations between Filipinos and other groups in the community (Payne 1980:96).

3. Social Services

Hospital services originally began in 1939 with the Griffin Memorial Hospital. In 1944 the Catholic order of Grey Nuns took over operations. They ran the hospital until 1968 when a new building was constructed by the KIB and a non-profit corporation, composed of three Grey Nuns and two laymen, was organized to administer the facility. In 1979 the non-profit Lutheran Hospital and Homes Society took over responsibility for administration while ownership of the building remained in the hands of the KIB (CDL 1986:402).

Today, medical services in Kodiak are provided by the Health Systems Management Company (under contract to the KIB) and three physicians in private practice. As of 1986, there were 11 physicians as members of the hospital's active medical staff, and eight as courtesy staff. The courtesy staff are physicians from out of town who rotate through the Kodiak hospital to provide specialty services. The hospital was licensed for 21 medical-surgical beds and four obstetrical beds. There was also a 19-bed intermediate care unit attached to the hospital offering 24-hour nursing services. (CDL 1986:402). The Kodiak Area Native Association contracts with the Bureau of Indian Affairs to provide health care services to Natives in Kodiak and outlying villages.

Mental health services have been provided by the Kodiak Island Mental Health Center (KIMHC) since 1979. The center is an agency of the KIB and is governed by eight board members. The counseling staff includes two clinical psychologists, a psychiatric consultant, two psychiatric social workers, and a mental health associate. Major services include outpatient care, inpatient care, partial hospitalization, emergency services, and education and consultation. The center serves all residents of Kodiak, including Coast Guard personnel which make up 40% of the case load (CDL 1986:437).

The Kodiak Women's Resource and Crisis Center is available for women who have been victims of domestic violence. Prior to its establishment, there was a network available in the community to refer women to safe shelters in cases of domestic violence, but because of the small size of the community, women could never be sure their whereabouts were secret. In response to this difficulty, the Kodiak Women's Crisis Center was opened in 1983.

B. Sociocultural Values

1. Religion

As is true with most of the communities in this part of Alaska, the oldest church in Kodiak is the Russian Orthodox Church. In Kodiak, the church was founded in 1794, which makes it the oldest Russian Orthodox Church in America. There is a Russian Orthodox seminary in Kodiak where students are trained to run parishes in Native communities. Other denominations represented in Kodiak include Catholic, Baptist, and Evangelical. The secondary literature does not have data on the level of individual participation in the churches or the involvement of various churches in the general social organization of Kodiak.

2. Views on Resource Management

The secondary literature does not address this topic specifically. Therefore, views on resource management have been ascertained through primary data collection. More time was spent with fishermen and fish processors than any other group, given the limited research time available. There were a limited number of topics that were consistently mentioned.

As discussed above, few fishermen interviewed favored a limited entry fishery. They stated that there is too much room for inequity and not enough flexibility to allow for change in such a system. A few fishermen could see the reasons salmon may be more amenable to limited entry than other species, since they are a natural "pulse" fishery, but these fishermen represented a minority of those interviewed. The processors interviewed also profiled their "typical" fisherman as being opposed to the extension of limited entry into fisheries other than salmon.

Almost all of our informants held the opinion that the current management regime in the Gulf of Alaska and the Bering Sea groundfish fisheries is biologically indefensible. Not all of our informants may want to express this so strongly in public, and their qualifications to assess the biological science bearing on the issue are not known to us, but the consistency with which informants made this position known to us was impressive. In most cases we did not have to solicit an opinion on this topic, as it was freely offered. Of course, economic self-interest is also a potential factor in this argument, as Kodiak informants used the need for biological conservation of the resource as a reason to restrict factory ships in the Gulf of Alaska. Few informants in Kodiak advocate the use of a bottom trawl in the Gulf of Alaska (while recognizing that the greater resources and different conditions in the Bering Sea may make their use necessary there), and these informants maintain that theirs is the majority position in Kodiak. It is argued that such trawling destroys the sea bottom, takes all creatures indiscriminately (not just the target species), and that it leads to overharvesting. However, most informants feel that local trawlers can be accommodated.

The fieldworker was also able to attend a public hearing on a federal rule to designate the Stellar Sea Lion as an threatened species. Few of those who testified did so by making conservation arguments (about sea lions or fish). Rather, many speakers instead presented a negative image of large trawlers operating in the Gulf of Alaska, which they perceived as the main cause of the sea lion decline. The perception of the Kodiak audience, at least at this meeting, was that the proposed federal rule was aimed at fishermen, and prohibited fishermen from shooting Stellar Sea Lions. The rule in general was to prohibit fishermen from harassing or contacting sea lions. They argued that this approach would have no effect on sea lion populations, since the reason they were declining was that the factory trawlers were removing too much of their food supply. Thus, this was another criticism of the current management approach, which focuses on one objective at a time and often seems to ignore interconnections between objectives and species.

Informants' opinions on bycatch, while also economically motivated, seemed to be rooted within a resource management perspective as well. Again, it is difficult to separate ideology and economic self-interest. The most commonly discussed bycatch species was halibut, which informants seemed to single out because it has a tightly controlled cap, is a valuable and much sought after targeted species, and is often caught while fishing for other species. Certain gear has a higher bycatch rate than other gear, but Kodiak informants all seemed to think that it is possible to use any gear and to fish fairly cleanly if the fisherman knows what he is doing. Kodiak fishermen, for all of their contentiousness, have reportedly reached an accord that they should try at least to coexist with each other. They thus talk to each other about reducing bycatch (for their mutual good) and ways to avoid gear conflict. Most informants characterize gear conflict (their own and other's) as occurring primarily with "outside" boats who do not (yet) know the local conventions about how to avoid gear conflicts. The most damning point they made about (large, non-Kodiak) trawler operations is that they seem to take place with no thought as to how to reduce bycatch. Most of these informants thought that an inshore allocation would be one way to get a better handle on the bycatch problem as well. In their view, local people, be they harvesters

or processors, are said to have a deeper understanding of the resource and more of a vested interest in its conservation and continued availability.

3. Subsistence

Substantial information on subsistence activities and patterns of distribution and exchange exists in Langdon's chapter in CDL 1986 (pp. 151-96). No attempt will be made to summarize that treatment here or to otherwise discuss this topic. It is beyond the scope of our present work, since there is such a difference between the population of the city of Kodiak (the center of commercial fishing and so our main interest) and the rural villages of KIB. This is evident from Langdon's summary that the per capita subsistence harvest for the city of Kodiak and its environs ranged from 92 pounds for Filipinos to 203 pounds for the Chiniak population. The per capita harvest for rural communities ranged from 360 pounds to 520 pounds (CDL 1986:195). There are two obvious points to be made from these data. First, subsistence activities contribute more to the Native household economy than to the non-Native household economy and probably have different cultural meanings and significance as well. Second, many non-Natives engage in subsistence activities, and even for those non-Natives who do not claim the label of "subsistence user" access to these resources is one (and perhaps the most important) reason they choose to live where they do. The definition of "subsistence" is far from clear in Alaska. It is clear, however, that "subsistence resources" are valued by all Alaskans. Filipinos can be characterized as a subpopulation that has arrived fairly recently and is concentrated in the city of Kodiak yet they still exhibit a substantial level of subsistence resource harvest and use. The fact remains that the information available on non-Native use of "subsistence resources" is quite limited.

The literature available for Kodiak concentrates on the use of these resources in the more rural (and predominately Native) KIB communities. Subsistence activities are an integral feature of the Native way of life and have been for thousands of years. In the village of Old Harbor, eight out of twelve families were preparing subsistence foods on a given night (Davis 1971:198). Four years later, in the same community, 30 of 48 individuals identified fish, sea lion, seal, game, and duck as their most favorite foods (Davis 1976:48).

Substantial subsistence activities are characteristic of all communities in the study area. Major species of importance are salmon, halibut, and deer in the Kodiak region. The average per-household subsistence harvest of Kodiak rural villages is 1,611 pounds, of which 83 percent is marine and 17 percent terrestrial. For the road-connected area of Kodiak Island, the figures are 460 pounds per household with 84 percent marine and 16 percent terrestrial (Payne in CDL 1986:458-9).

A 1979 KANA study estimated the reliance of small village Natives on subsistence foods to be between 53% and 80%. The study also estimated that the value of these resources could

approach one million dollars a year. However, the reliance on subsistence foods is not solely an economic matter. It also has a strong cultural significance. "It's a way of life here. It's only that they never recognized that it's subsistence. They've done it all their lives and they've come up with a new name again . . . It's a tremendous dependence on subsistence that's not recognized" (Overall Economic Development Plan Report 1979, Appendix, cited from Davis 1979:176). Little existing information focuses specifically on the subsistence activities of the population of the city of Kodiak nor does it address the interaction of the commercial fishing fleet and subsistence.

Estimates of salmon and shellfish subsistence activity, based on Alaska Department of Fish and Game estimates, are presented in Tables 22 and 23. Table 22 presents estimates of subsistence salmon fishing activity by species, but the figures given are aggregate figures of Kodiak Island. No separate breakout for the city of Kodiak is available. Table 23 provides information on the number of shellfish subsistence permits issued, but take figures per permit are unavailable.

Year	Permits		Percent Returned	Projected Catch (Fish)					
	Issued	Returned		Kings	Sockeye	Coho	Pink	Chum	Total
1988	2,450	705	28.8	108	10,152	4,094	1,271	366	15,991
1989	2,880	686	23.8	39	11,939 ³	3,577	1,453	328	17,336
1990 ⁴	2,900	706	23.6	926	11,416	6,369	1,195	468	20,374

¹ Figures given are aggregate figures for Kodiak Island. No City of Kodiak figures are available.
² 5,000 additional red salmon were taken on special subsistence fishery permits issued to Karluk due to the Exxon Valdez oil spill.
³ 1990 figures are preliminary - current as of February 5, 1991.
Source: Alaska Department of Fish and Game.

Community	1988	1989	1990
Kodiak	665	754	571
(Military housing)	(105)	(210)	(149)
(Other)	(560)	(544)	(422)

Source: Alaska Department of Fish and Game.

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**COMMUNITY PROFILE DEVELOPED FOR THE
SOCIAL IMPACT ASSESSMENT OF THE
INSHORE/OFFSHORE AMENDMENT PROPOSAL**

Sand Point, Alaska

Submitted to

North Pacific Fishery Management Council

Submitted by

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Table of Contents
Sand Point Community Profile

INTRODUCTION	1
POPULATION	1
Size and Composition	1
Household Size and Composition	8
Educational Status	9
SOCIOECONOMIC PROFILE	12
Economic Profile	12
The Commercial Fishing Industry	16
Composition of Employment	18
Groundfish Industry Development	20
The Municipality	26
Infrastructure	29
Solid Waste Disposal	29
Transportation	30
Harbor	30
SOCIOCULTURAL PROFILE	32
Social Organization	32
Government	32
Quasi-governmental and Native Organizations	34
Social Services	36
Health	36
Emergency Services	38
Sociocultural Values	39
Religion	39
Views on Resource Management	40
Subsistence Activity	40
REFERENCES	42

SAND POINT, ALASKA

I. INTRODUCTION

Sand Point is located on the northwestern edge of Popof Island on Popof Strait. The island is part of the Shumagin Islands group that lies off the southwest shore of the Alaska Peninsula. Commercial fishing has been a part of Sand Point since its founding in 1887, when a San Francisco fishing company established a trading post, salmon fishing station, and supply post at the location. It is important to note that the community of Sand Point has been involved with groundfish since its inception: the original station was used as a supply post in support of the codfishing industry. Indeed, the state's Department of History and Archeology cites Sand Point as an historical area because of its early cod fishing activities.

II. POPULATION

A. Size and Composition

The early residents of Sand Point were Aleuts from other villages and Scandinavian fishermen who made their living raising silver and blue fox in addition to salmon and cod fishing. The first post office was established in 1891 and the first mail vessel, the *Elsie*, served Sand Point in the summer months. The community of Sand Point has been growing steadily since the first census in 1900. At that time there were 16 residents. Gold was discovered in the area in 1904 and during the next few years 40 to 50 men worked the beaches. Fish processing began nearby in the 1930s and eventually became the dominant element of the community's economy. In the 1950s and 1960s, the community grew with increased in-migration of Aleuts from nearby communities. Table 1 below gives population estimates for Sand Point between 1900 and 1990 and tabulates the percent changes in population on a decennial and annual basis.

The differences in census totals for the same year typically reflect variation in methods of census taking or in the time of year during which the census was conducted. Table 2 shows the population of Sand Point by residential category.

In contrast to villages in the Aleutian/Alaska Peninsula region as a whole, in recent times the population of Sand Point has been increasing. Between 1970 and 1980, for example, the population grew by 73% (Impact Assessment, Inc. [IAI] 1987:8). Since 1980, the resident population has grown more slowly, 1.5% each year until 1985. The Bristol Bay Cooperative

Management plan study estimated that the Sand Point population would grow at an average annual rate of 2.45% between 1983 and 2003 (Nebesky, Langdon, and Hull 1983).

Year	Census	Other Estimates	Sources of Other Estimates	Percent Change	
				Decennial	Annual
1900	16				
1920	60				
1929	69			15.0	
1939	99			43.5	
1950	107			8.1	
1960	254	260	Ak. Dept. of Labor (July)	137.4	
1967		353	Fed. Field Comm. - 289 Native; 64 non-Native		
1968		375	Alaska Area Native Health Service - 310 Natives		
1969		375	Fed. Field Comm. - 310 Native; 65 non-Native		
1970	360	360	Ak. Dept. of Labor (July)	41.7	
1975		429	U.S. Census Bureau		
1976		448	U.S. Census Bureau		
1980	625			73.6	
1980	650*	794	City of Sand Point (June)		11.5
1981	697*	846	City of Sand Point (June)		
1982		687	U.S. Census Bureau (July)		
1982	797*	795	City of Sand Point (June)		14.3
1983	889*	889	City of Sand Point (June)		11.5
1984	632*	870	City of Sand Point (June)		-28.9
1985	671*	896	City of Sand Point (June)		6.2
1985		900	Dept. Comm./Reg. Affairs		
1986		890	Dept. Comm./Reg. Affairs		
1987		890	Dept. Comm./Reg. Affairs		
1988		993	City of Sand Point		
1990		1,003	City of Sand Point	20.8	

* Alaska Department of Labor estimates of July 1 population derived using U.S. Census methodology. Where these figures are the same as those cited by the City of Sand Point, the Department of labor accepted local censuses or estimates.

Sources: U.S. Census (1900 - 1980 figures).
Alaska Department of Labor (1980 - 1985 figures).

Adapted from: Waring (1988:700).

The causes of this steady population increase are primarily economic. This growth has been fueled by several different factors, including record salmon harvests in the late 1970s and early 1980s, the community's emergence as a regional service center, and the cooperation

between the city government and the local Native Corporation. This growth has brought about social changes in the community which will be discussed in the sociocultural profile section.

Migration has played the most significant role in the increased population of Sand Point. During the previous two decades, many new residents of Sand Point came from Unga, King Cove, Squaw Harbor, Sanak, and other small communities in the area. Over the last several decades until recently there had been relatively little permanent migration into Sand Point from outside the Alaska Peninsula, and Shumagin and Sanak Islands. Interviews with local residents in April 1986, however, suggested that there was a small but growing in-migration of fishermen from other parts of the state into the community wishing to exploit local resources. Similarly, until recently the population was considered relatively stable, with 60% of the population having resided in the community for ten years or longer (Aleutians East CRSA Survey, 1983). However, in 1987, fully 14% of Sand Point's population had resided in the community for only two years or less, indicating that a large proportion of the community's population was composed of very recently arrived persons (IAI 1987:9). In addition, there was little out-migration from Sand Point compared to other Aleutian communities. This was the case because many members of the younger generation chose to remain in the village to live and work, mainly in fishing or fisheries-related businesses (IAI 1987:10).

Table 2 shows the population of Sand Point by residential category for the period 1980-1985. These counts, which were conducted by the City of Sand Point during the summer season, include the transient fish processing laborers, whose presence seasonally inflated the population. The apparent population decline in 1982 was actually a consequence of a poor fishing season as evidenced by the low number of processing workers living in group quarters. Despite the relatively unrewarding fishing that year, the number of people living on fishing boats operating out of Sand Point during the summer season grew at a rate of 12.7% per year during the years 1980-1985 (IAI 1987:9). Table 3 gives one an idea of the differences in sex ratios for residents versus transients for those same years, 1980 - 1985. Noteworthy is the highly disproportionate number of male transients.

The sex distribution of Sand Point's population does not follow an even distribution curve (IAI 1987:10). In 1980, males significantly outnumbered females in the community, perhaps because of the dominance of the male-oriented fishing industry. There were no firm data on the age distribution of Sand Point's population, however, on the basis of school enrollment figures, it was estimated that the percentage of the community's permanent resident population between the ages of five and 18 declined from slightly more than 25% (146 residents) in 1980 to 18.6% (119 residents) in 1985 (IAI 1987:11).

Residential Category	1980	1981	1982	1983	1984	1985
Full-time residents						
Residents in Households	587	581	584	616	NA	640
Number of Households	171	178	177	192	NA	203
Persons per Household	3.4	3.3	3.3	3.2	NA	3.1
Transients						
Persons in Transit	2	2	0	0	NA	5
Persons in Group Quarters	96	103	53	99	NA	59
Persons Living on Boats	109	160	158	174	NA	192
Total Population Counted	794	846	795	889	870	896

Source: City of Sand Point Census, 1980-1985.

Residency	1980		1981		1982		1983		1985	
	No.	%								
Resident										
Male	302	52	301	52	314	54	329	53	350	55
Female	285	48	279	48	270	46	287	47	290	45
Transient										
Male	174	84	227	86	198	94	252	92	241	94
Female	33	16	38	14	13	6	21	8	15	6
Total	794		846		795		889		896	
By Residency										
Residents	587	74	581	69	584	73	616	69	640	71
Transients	207	26	265	31	211	27	273	31	256	29
By Sex										
Male	476	60	529	63	512	64	581	65	591	66
Female	318	40	317	37	283	36	308	35	305	34

^a Detailed data not available for 1984.
Source: City of Sand Point annual census.

Local censuses after 1985 are not nearly as detailed with respect to demographic, residential, and housing characteristics. Although available figures do not continue to divide the population into full-time residents and transients in the 1986, 1988, and 1990 censuses, a fairly accurate count of the temporary residency can be gained from counts of individuals living in group housing. (1985 figures are presented as well for comparison.) This is not absolutely accurate because some permanent residents stay in group housing on a temporary basis. These figures are provided in Table 4. A local census undertaken by the clinic, taken in March, 1990, is presented in Table 5. The total number of residents arrived at in this census is 1,290.

Table 4
City of Sand Point Census, 1985, 1986, 1988, 1990

Year	Total	Individual	Group Housing
1985	896	650	246
1986	888	634	254
1988	993	869	124
1990	1003	782	221

Note: City censuses are only required by state programs every two years. Available figures for 1987 are a repeat of 1986; 1989 figures are a repeat of 1988.

Source: City of Sand Point.

Table 5
Sand Point Population Age and Sex Characteristics, 1990

Age	Male	Female	Total
0 - 5	46	32	78
6 - 14	62	51	113
15 - 19	25	15	40
20 - 35	335	270	605
36 - 50	204	141	345
50 +	64	45	109
Total	736	554	1,290

Source: Sand Point Clinic Statement of Need. Census conducted March, 1990.

Fishing ports in Alaska are known for their population fluctuations, and in 1987, 87% of the employment in the community was accounted for by the fishing industry. According to analysis by the Alaska Department of Community and Regional Affairs (DCRA), 70% of the work force in Sand Point is providing goods and services to markets outside the community (fishing and processing), thus the community is not subject to drastic population fluctuations (DCRA 1987).

The age and ethnic breakdowns of Sand Point's population are shown for 1970 and 1980 in Tables 6 and 7 below. While the Native and non-Native populations of Sand Point were relatively even in sex and age distribution according to the 1970 census data, there was a large difference in their median ages (Waring 1988:710). The median age for Alaska Native residents was 16.8 years, and that for the non-Native population was 31.6 years. The most likely explanation for this difference is that those designating themselves as Natives are more likely to raise children in Sand Point, making it their permanent home, while those identifying themselves as non-Natives were not typically permanent residents in the same sense. By 1980 the median ages of Natives and non-Natives reached comparable levels but the sex distribution for both Natives and non-Natives was skewed toward the young adult male age range (Waring 1988:711). According to the 1980 census, among Natives in the 20-34 year age bracket, there were 60 males and 38 females. Among non-Natives there were

74 males, and 55 females. Waring (1988:711) postulates that in the case of Natives, this was a combination of selective immigration of adult males and emigration of young adult females. The concentration of almost half of the non-Native population in the 20-34 age range suggests a large influx of unattached or childless couples.

The ethnic composition of Sand Point appears to have changed substantially from 1970 to 1980. In 1970 the population was 74.4% Native Alaskan; this figure decreased to 57.1% in 1980. While the Native population segment grew in absolute terms by 33% during the decade, its growth wasn't nearly as rapid as that of the non-Native segment, which increased 291% during the same period. In addition, the changes reported in the ethnic composition of Sand Point can be misleading unless one understands the context in which individuals choose to identify themselves, and that ethnicity, for censuses at least, is a self-reported category. While some of the absolute growth of the Native population segment over the decade 1970-1980 may be attributed to the in-migration of Aleut residents from other communities, a second factor operating was the passage in 1971 of the Alaska Native Claims Settlement Act (ANCSA). ANCSA qualified only identified Alaska Natives for shares in Native Corporations and therefore, in effect, for land ownership through the vestment of local corporations. Prior to ANCSA most residents considered themselves to be of both Scandinavian and Aleut ancestry, and in any event there was little to be gained by the instrumental use of any particular ethnic identity. ANCSA, however, provided incentives for one to differentially accentuate a Native heritage. In 1987, there was an almost equal balance between persons who identified themselves as Natives and those who identified themselves as non-Natives (IAI 1987:10).

More current population statistics do not provide a detailed breakdown by ethnicity. The figures in Table 8 show the overall ethnic categories as enumerated in the Sand Point clinic's March, 1990 census. These figures show that Natives make up somewhat less than 40% of the current population, while Caucasians make up somewhat more than 45% of the population. That Sand Point's population is a complex one is shown by the fact that over 15% of those enumerated were of neither of the two largest ethnic/racial categories.

Table 6
Population Composition
Sand Point, 1970

Age Range	Alaska Native			Non-Native		
	Male	Female	Total	Male	Female	Total
Under 5	34	16	50	4	2	6
5 - 14	35	41	76	4	7	11
15 - 24	23	25	48	8	11	19
25 - 34	17	19	36	9	7	16
35 - 44	18	12	30	3	5	8
45 - 54	7	7	14	11	5	16
55 - 64	4	6	10	6	6	12
65 and over	1	3	4	3	1	4
Total	139	129	268	48	44	92
Median Age	15.4	18.2	16.8	34.4	28.6	31.6

Age Range	Total		
	Male	Female	Total
Under 5 years	38	18	56
5 - 9	22	32	54
10 - 14	17	16	33
15 - 19	11	18	29
20 - 24	20	18	38
25 - 29	17	13	30
30 - 34	9	13	22
35 - 39	13	10	23
40 - 44	8	7	15
45 - 49	11	3	14
50 - 54	7	9	16
55 - 59	7	6	13
60 - 64	3	6	9
65 and over	4	4	8
Total	187	173	360
Median Age	23.8	20.8	21.1

Note: Native is defined as Aleut, Eskimo, Indian and others, excluding White and Black.

Source: U.S. Census.

Table 7
Population Composition
Sand Point, 1980

Age Range	Alaska Native			Non-Native			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 5	15	19	34	10	13	23	25	32	57
5 - 9	22	18	40	6	7	13	28	25	53
10 - 14	17	15	32	10	5	15	27	20	47
15 - 19	20	28	48	17	14	31	37	42	79
20 - 24	25	17	42	29	21	50	54	38	92
25 - 29	16	14	30	31	26	57	47	40	87
30 - 34	19	7	26	14	8	22	33	15	48
35 - 39	11	11	22	10	10	20	21	21	42
40 - 44	10	10	20	7	6	13	17	16	33
45 - 49	9	4	13	6	2	8	15	6	21
50 - 54	11	8	19	5	3	8	16	11	27
55 - 59	4	3	7	2	0	2	6	3	9
60 - 64	5	6	11	3	2	5	8	8	16
65 - 69	4	3	7	1	0	1	5	3	8
70 - 74	0	3	3	0	0	0	0	3	3
75 +	1	2	3	0	0	0	1	2	3
Total	189	168	357	151	117	268	340	285	625
Median Age	24.2	21.3	23.0	25.6	24.8	25.2	24.9	23.1	24.1

Source: U.S. Census

Table 8
Sand Point 1990 Population Characteristics: Ethnicity

Ethnicity/Race	Number	% of Total Population
Caucasian	584	45.3%
Amerind - Alaska Native	497	38.5%
Spanish - American	148	11.5%
Filipino	59	4.6%
Black	2	0.1%
Total	1,290	100%

Source: Adapted from Sand Point clinic statement of need. Data from March, 1990 census.

B. Household Size and Composition

As indicated in Table 1 above, the average household size decreased between 1980 and 1985. This decline may be attributed to an increased housing supply in the village, and specifically to the construction of eleven units of HUD housing in 1980, an additional fifteen HUD units in 1985-1986, and recent construction of a number of privately built single-family dwellings, as evidenced by the number of building permits issued. One of the social

consequences of the construction of new dwellings was the decrease in the number of extended families that live together (IAI 1987:11). In 1990, ten new HUD homes were allocated with construction scheduled for 1991, and the community was experiencing an overall growth rate of approximately 8%. Whereas private financing of home construction has been difficult in the past because there are no local financial institutions, there has been recent interest shown in the community by one of the larger banks in the state. This company is considering the possibility of opening a branch in the community, which would make the obtaining of loans by residents much less complicated. The current interest by the bank is attributed to the cash flow generated by the groundfish industry.¹

C. Educational Status

The community of Sand Point regards education as very important and this is reflected in the achievements and activities centered around the school. The number of children from Sand Point who completed high school and continued successfully through college was unusually high for a rural Alaskan village. Also unusual is large number of teachers who return year after year to teach at the school. In addition, the level of participation in extracurricular activities such as, sporting events, travel, music, and art is very high for the size of the population. The Aleutians East Borough is currently funding a \$1.066 million area-wide school project (Aleutians East Borough 1989b:3). One of the stated objectives of the borough is to provide quality education in all of the communities of the borough, and to this end, the borough is currently providing \$20,000 in scholarships for students, preschools have been established at all school sites within the borough, a pilot program in conjunction with Alaska Pacific University has been undertaken to provide a support/transition program for students moving from a rural high school to a university environment, and adult educational opportunities have been expanded to include such offerings as a course in groundfishing that was recently given in Sand Point in coordination with the Alaska Vocational/Technical Center in Seward.

The enrollment figures in Table 9, providing Sand Point enrollment by grade from 1956/57 through 1986/87, confirm other data sources indicating rather consistent population growth during the early 1980s. Table 10 provides enrollment figures for the years 1987/88 through 1990/91.

¹Interest by banks in relatively small communities in the region varies with cash flow variations. Interest was shown in Sand Point previously during a local heyday of tanner crab fishing; when tanner related income declined, so did the interest of banking officials. During the peak of the king crab fishery (in the late 1970s and early 1980s) there was a branch of the Alaska State Bank in the community for approximately five years. The demise of this local branch of the bank coincided with the economic slump that was felt both locally and statewide.

Table 9
Final Enrollment by Grade
Sand Point, 1956/57 - 1986/87

Year	K	1	2	3	4	5	6	7	8	9	10	11	12	Tot
1956/57		11	6	5	4	4	6	5	5					46
1957/58		9	8	7	5	5	4	6	4					48
1958/59		10	7	7	7	6	5	5	5					52
1959/60		6	8	6	6	7	6	4	5	2				50
1960/61		6	6	10	7	7	7	5	4			1		53
1961/62		9	3	7	9	9	6	7	5					55
1962/63		7	9	3	6	9	9	5	6					54
1963/64		9	10	9	4	6	8	7	3	2	3			61
1964/65		16	7	13	9	3	6	8	8					70
1965/66		13	15	6	11	8	3	4	8					68
1966/67		11	9	15	5	10	7	3	5					65
1967/68		12	11	8	17	66	8	7	3					72
1968/69		10	11	9	7	16	6	6	7					72
1969/70														
1970/71		12	21	7	14	10	4	22	8					98
1971/72	13	10	15	19	8	16	10	5	20	9				125
1972/73	14	12	10	12	18	9	17	12	3	16	9	1		133
1973/74	14	9	11	12	13	14	10	14	11	4	12	6	2	132
1974/75	4	15	9	11	11	12	16	9	15	10	5	8	5	130
1975/76	11 ^a	7	16	11	10	11	13	17	8	15	8	3	10	140
1976/77														
1977/78														
1978/79	8 ^a	9	10	8	5	11	8	11	11	12	15	8	15	131
1979/80 ^b	17	7	5	9	8	6	14	12	11	9	10	15	8	131
1980/81	8	14	4	8	9	3	6	13	8	11	9	9	12	114
1981/82	15	12	12	7	7	8	3	7	15	8	10	6	8	118
1982/83	13	15	6	12	4	7	5	5	6	14	6	9	6	108
1983/84	9	11	12	6	11	6	7	5	5	5	14	6	9	106
1984/85	9	6	11	13	9	11	7	8	5	6	7	12	5	109
1985/86	19 ^a	8	8	12	11	7	12	6	11	7	5	7	11	123
1986/87	16	16	7	7	13	10	7	12	7	9	10	6	6	126

^a Figures may include Pre-Elementary age children.
^b 1979/80 final enrollment figures include 11 students enrolled at Sand Point Christian.

Source: Alaska Department of Education, Educational Finance and Support Services.

Year	Enrollment
1986/87	126
1987/88	127
1988/89	133
1989/90	142
1990/91	145

Source: Sand Point school staff, personal communication.

According to senior school staff, recent changes in the nature of the fishery have made changes in school enrollments. While there were no enrollments in the school from workers at the Trident plant as of late September, 1990, according to the school superintendent, changes in the nature of the harvesting sector have stabilized the amount of student movement during the year. Boats that used to go to Kodiak for the winter now stay in the community, and more families have made the community a permanent rather than a seasonal base as the result of the fisheries becoming more of a truly year-round operation.

III. SOCIOECONOMIC PROFILE

A. Economic Profile

The village of Sand Point was founded in the 1890s when a San Francisco fishing company established a supply post for the newly discovered cod fishery in the Okhotsk Sea off the Russian coast (Combs 1982:64). Historically, only two enterprises unrelated to fishing were important in the commercial economy of Sand Point. Those were fox farming and gold mining. Because of Sand Point's superior harbor, however, fishing alone has provided the community with a base for sustained economic growth. The history and recent status of the fishery is discussed in the following section.

The economic growth and diversity in Sand Point can also be attributed to the cooperation between the City government and the largest local Native Corporation, the Shumagin Corporation. The role of the Shumagin Corporation has derived largely from its status as the major land holder in the community. Its willingness to sell some of its holdings for investment and its close working relationship with the City have proved beneficial to all involved (IAI 1987:38).

Tables 11 - 15 provide employment statistics for various years between 1967 and 1986. Consistent through all these years is the dominance of the seafood harvesting and processing sectors of the economy in terms of employment. In 1987 the fishing industry accounted for 87% of the employment, with construction, government, education, and professional services accounting for the remainder (Dept. Community and Regional Affairs 1987). Table 14 clearly indicates that for the span of years covered, the summer months brought significantly increased employment to the community, most of which can be attributed to the fishing industry. With the coming of groundfish processing in subsequent years, however, this pattern has been changing. The most recent data on the composition of employment for Sand Point cover 1980, but some incomplete data are available for 1986. The nonfishery-related employment comes most importantly from the city school, which employed 20 people in 1986 (IAI 1987:47). Other employers included the general store, bank, cafe, tavern, motel, electrical company, telephone company, clinic, Native Corporation, gift shops, vending machine company, air charter companies, and an airline. These businesses employed approximately 53 residents in 1986. These data are shown below in Table 15. From these data, we see that the construction and commercial service jobs sectors grew significantly between 1980 and 1986. Detailed analysis of contemporary employment patterns await release of 1990 U.S. Bureau of the Census information.

Industry Classification	Number	Percent
Agriculture, Forestry and Fishing	80	54.0
Mining	0	0.0
Contract Construction	2	1.4
Manufacturing	50	33.7
Transportation, Communication and Public Utilities	1	0.7
Trade	4	2.7
Finance, Insurance and Real Estate	0	0.0
Service	2	1.4
Government	9	6.1
Federal	(2)	(1.4)
State	(6)	(4.1)
Local	(1)	(0.7)
Total	148	100.0

Note: Figures for contract construction, trade and government sectors estimated based on partial information.
Source: Alaska Consultants, 1970.

Industry	1974	1976
Commercial Fishing	53	65 ^a
Seafood Processing	71	81 ^a
Domestic & Services	12	19
Government	3	6
Transportation	1	6
TOTAL	150	177

^aThe Bomhoff study says its 1977 employment survey found the Pacific Pearl plant employed 350 persons over the year, but a majority were transients who stayed only one to three months. Eighty employees were required for operation of the Pacific Pearl plant and 15-20 persons for the New England Fish Company plant.
Source: Corps of Engineers, 1974; Bomhoff & Associates, 1977.

Table 13 Composition of Sand Point Employment 1980 & 1986 (incomplete)		
Activity	Year	
	1980	1986
Commercial Fishing	279 (51.9%)	
Seafood Processing	189 (35.1%)	
Commercial Services	17 (3.2%)	
Construction	4 (0.7%)	30
Transportation	7 (1.3%)	
Education	18 (3.3%)	20
Technical/Professional Services	2 (0.4%)	
Government	16 (3.0%)	17
<i>Federal</i>	3 (0.6%)	
<i>State</i>	5 (0.9%)	
<i>Local</i>	8 (1.5%)	
Non-profit Organizations	6 (1.1%)	
Total	538 (100%)	
Source: City Survey, City of Sand Point, June 1980 IAI Survey, March 1986 (incomplete)		

Table 14 Selected Labor Force Data Sand Point, 1980					
Labor Force Status, Persons Over 16 Years, 1980					
Labor Force Status	Alaska Natives		All Races		Total
	Male	Female	Male	Female	
Armed Forces	0	0	0	12	12
Civilian Employed	62	19	195	81	276
Civilian Unemployed	8	4	8	4	12
Not in Labor Force	64	80	73	102	175
Labor Force Participation Rate	52.0%	22.0%	42.0%	22.0%	31.0%
Unemployment Rate:					
1980	11.4%	17.4%	3.7%	7.6%	5.0%
1970	*	*	39.4%	37.5%	39.2%

Employment by Industry, 1970 and 1980		
Industry	1970	1980
Construction	4	6
Manufacturing	46	41
Transportation	8	25
Communications	0	10
Trade	0	53
Finance, Insurance & Real Estate	0	0
Services	18	56
Public Administration	0	19
Other	28	74
Total	104	276

* Data missing or suppressed.
Source: U.S. Census, 1980.

Month	Average Monthly Employment	% Difference from Annual Average
January	169	-24.6%
February	165	-26.3
March	160	-28.6
April	178	-20.5
May	197	-12.1
June	236	+5.4
July	333	+48.7
August	365	+62.9
September	318	+42.0
October	229	+2.2
November	177	-21.0
December	167	-25.4
Annual Average	224	

Source: Alaska Department of Labor.

B. The Commercial Fishing Industry

The first salmon cannery in Sand Point was established in 1931 by Alaska Pacific Salmon. This facility eventually ceased its processing operation around 1960 and became a seasonal "fish camp", or buying station, run by the New England Fish Company (NEFCO) (Combs 1982:95). When NEFCO went bankrupt in 1980, its assets were purchased by Ocean Beauty Alaska, a subsidiary of the Sealaska Native Corporation.

Peter Pan Seafoods is a major fishery support operation in Sand Point. It is a Japanese-owned facility that processes payment to local fishermen for catch delivered to other Peter Pan Seafood facilities in the area. In 1981, Peter Pan completed construction of a 12,000 square-foot building in which fishermen's gear, extra parts, equipment, and administrative offices are stored in exchange for their business (Combs 1982:96). In 1990, work was completed on a new wooden dock in excess of 300 feet in length at the facility. In that same year, work was also completed on a 7,200 square foot gear building and workshop and a new combination bunkhouse and year-round residence. This latter facility of approximately 5,000 square feet provides housing for eight to ten seasonal employees and one year-round employee.

In 1946 Aleutian Cold Storage opened its doors for halibut processing. Since then, the facility changed hands a number of times. It has operated as a Wakefield, Hunt-Wesson/Amfac, Pacific Pearl, and Pelican Seafoods facility, and with changes in ownership

were changes in the species processed. According to one resident who worked at the facility over the span of 37 years, the facility changed hands six times during his tenure. In 1986 the facility was purchased by its present owner, Trident Seafoods, and it remains the only processing facility in the community.

With the purchase of the facility by Trident, relations between the processing facility and the community have changed, particularly with respect to employment patterns. For many owners in the past, the facility was a year round operation, or nearly so, and provided significant amounts of employment for permanent residents of Sand Point, as a diversity of species were run, and the seasons of the species blended into each other. Some local men worked at the plant in management and a variety of other positions over many years. Over the years, and over various owners, some men worked their way up into upper management positions. According to one older resident, the employment of females at the plant in past times was especially significant, as it provided valuable additional income to families, and would supplement the variable income earned by the men in the families who fished. Since Trident purchased the facility, no local residents work at the plant in any capacity. In addition to changes in hiring policies, it is reported that women no longer find work at the plant attractive because of the fact that it pays poorly compared to other opportunities available in the community, as well as the fact that having two incomes in families with fishermen is now perhaps more a case of an option than the necessity it was at some times in the past. Workers at the Trident plant, now hired exclusively from outside of the community, reportedly have virtually no interaction with permanent residents of the community outside of contact resulting from their patronizing the store, restaurants, and bars.

The Aleutians East Borough has also benefitted considerably from the commercial fishing industry. According to a Borough administrator, there was approximately \$139,670,000 worth of fish processed or sold within the Borough boundaries during the 1989 calendar year. For the first half of 1990, there has been \$66,230,000 worth sold or processed.

Recent fishery growth has provided for modest growth in a marine services sector in Sand Point and, perhaps more importantly, a change in the nature of their operations. Three small marine repair, service, or fabrication facilities were operating at the harbor as of September, 1990. While services such as these have been available for a number of years, until recently they closed down and their owners left the community during the off-season. While the fisheries in Sand Point have been essentially year round for some time, there have been slower times than others in the annual cycle. With recent investment by Trident focusing on winter groundfish processing, activity levels have remained consistently high enough that marine services sector businesses have been remaining active year round in the community.

1. Composition of Employment

According to the most current data available, the processing workforce in Sand Point was composed primarily of non-local males. In March 1981, at least 61% of the workforce had worked for six months or less (Combs 1982:100), and this number is probably low because when the count was taken a large amount of the summer crew had yet to arrive. The paucity of non-local processing employees is attributable to the relatively low wages offered for such work, as well as the fact that processing was considered low status work, especially for younger males whose peers would be working on fishing boats. Moreover, during the summer when many processing jobs became available, the local community was focused almost entirely on the salmon fishery. Only a handful of local residents worked in the fish processing sector, and then only in the winter.

Importantly, in recent years the composition of fishing crews has changed. Crews used to be assembled from the hiring of kin-related local residents to work on locally-operated fishing vessels; the practice has shifted now toward the hiring of outsiders to fill crew spots. Traditionally, drift gillnet boats have been almost exclusively operated by family or closely related kin. In contrast, in 1986, an estimated half of the crews on locally owned purse seine vessels were outsiders. Adult children of family heads will typically be put in charge of drift gillnet vessels or will skipper purse seiners for others. Kinship has always been less important in determining crew composition on purse seine vessels than on drift gillnet vessels, but even the crews of drift gillnet vessels are experiencing a change in composition as it becomes economically prohibitive to hire a kinsman for a 25 to 35% share of the catch when an outsider can be hired who is willing to put in hard work for a ten to 15% share (IAI 1987:44-5).

Despite the restrictions imposed by salmon Limited Entry legislation, the local commercial fisheries experienced substantial growth between 1980 and 1986. The resident Sand Point fleet numbered approximately 127 vessels in 1986, up from 91 in 1981; nearly all of these boats were engaged in the salmon fishery. Half of these vessels were purse seiners and the other half were drift gillnet vessels. About one-third of these boats also fished for tanner and dungeness crab in the winter, and a handful were involved in the halibut and herring fisheries. In addition to the permanent fleet, a number of transient fishing vessels passed through Sand Point and a number of boats belonging to non-residents docked at Sand Point year round. Table 16 shows the distribution of fishing permits in Sand Point in 1980. Most permit holders had more than a single permit, with an average of 1.62 permits per holder.

Types and Combinations of Permits Held	Number of Residents Holding Permits	Total Permits
Purse seine, drift gillnet and set gillnet	9	27
Purse seine and drift gillnet	15	30
Purse seine and set gillnet	11	22
Drift gillnet and set gillnet	1	2
Purse seine only	15	15
Drift gillnet only	4	4
Set gillnet only	18	18

A total of 21 draggers deliver to the Trident plant on a regular basis. All but four of these are converted 58' local salmon boats which typically operate with a four man crew, with the others being larger boats that have experienced limited success. Only one boat that delivers on a regular basis is locally considered to be an "Outside" boat, as the other larger boats that deliver regularly locally remain in the community virtually year round, in spite of the fact that their skippers are either not originally from the community or are only seasonal residents at present. The fact that the harvesting fleet that delivers locally is overwhelmingly (virtually exclusively) owned and operated by permanent community residents is in extreme contrast to the pattern seen in some other communities in this area of the state, such as Unalaska/Dutch Harbor, and the fact that it is a local fleet delivering to a local processing facility has important implications for the structure and economy of the community.² While having catchers comprised of a local fleet has its advantages, their relative small size makes them more weather dependent than larger boats from Outside, which puts them at a competitive disadvantage. This, in fact, hurt the Trident operation in the past year when an entire week went by during the season with zero production because the local fleet could not fish. It is difficult to get a locally based all-weather fishery, however, as the season, for all practical purposes lasts for two to 2.5 months, which is not long-term enough to attract bigger boats, and for local fishermen in general, it does not make economic sense to make the capital investment that would be required to move to larger boats. This is due to the fact that the mainstay of the local fishing fleet is salmon and that groundfish fishing is a venture that is undertaken in what would otherwise be down time for salmon fishermen. If these individuals were to go to larger boats they would effectively be excluding themselves from the salmon fishery. There is, in fact, an important interplay between the salmon and groundfish fisheries for the local catcher fleet. With increased competition for salmon combined with generally lower prices, the local fleet has increased their dependency on groundfish. In the case of pink salmon in particular, the low value and normally high but volatile volume of the fishery is not doing well against the increasingly popular world-wide

²There are other communities in the region that are structured like Sand Point in this respect, such as King Cove.

farming of fish. Sand Point experienced a poor salmon season in 1990, and groundfishing helped to stabilize the local economy. Diversification into higher value species, such as bairdi crab, is difficult as access to significant stocks is more problematic, and in the case of bairdi the winter season was entirely closed this past year.

Shore employment at the Trident plant varies with the species being processed. When Pacific cod is being processed there are approximately 350 workers based at the plant. During salmon processing anywhere from 190 down to 60 workers are used. Approximately 180 workers were kept during the summer of 1990, but in September the plant shut down and will remain shut through the beginning of the next season opening in January. Workers at the plant typically come from Anchorage or Seattle, but significant numbers come from the Midwest and central California as well. Workers are housed on site, and company housing includes a tri-plex and a four-plex in addition to bunkhouse facilities. Processing employees work on a six month contract basis. In addition to processing workers, the plant employs on a year round basis four individuals assigned mechanical, welding, or machine shop duties; two freelance mechanics, one radio operator, and one electronics specialist are hired for peak season.

Groundfish fishery-related employment has changed hiring patterns in the community of Sand Point in general, and within the local government in particular. With the fishery in general, according to a city official, it is hard to find qualified males to take full-time, permanent jobs as most men are interested in temporary employment in the off-season that will still allow them to participate in the salmon fishery. With the expansion of the groundfish fishery it is reportedly hard to hire men for hourly employment in general, with the effect that more women are moving into the workforce and into jobs that in the past have been held exclusively by men. For example, one-half of the department of public works jobs in Sand Point are currently held by women.

Trident operates other businesses in Sand Point as well as the processing plant. Trident is a fuel distributor to the general public, and sells gasoline, diesel, marine diesel, and heating fuel from its harbor facility. They also operate a marine hardware store, and provide limited heavy equipment leasing. Tax from fuel sales, as well as the fish tax that Trident is responsible for putting into the community, has been of considerable importance to the cash flow in the local economy.

2. Groundfish Industry Development

As noted in the introduction, the community of Sand Point was originally established over 100 years ago in part as a groundfish (codfish) industry support station. More recently, in the early 1980s, particularly after the collapse of the king crab fishery and the extension to the 200-mile fishing limit, the prospects of an American groundfish industry provided a basis for several projections of economic and population growth throughout the Aleutian/Alaska Peninsula region. The 1981 Comprehensive Plan for the city of Sand Point was largely

based on the prospect of a rapidly expanding groundfish fishery with processors located in or near the community. These plans were fueled by the arrival of a Norwegian firm in 1980 which had plans to locate a salted cod facility in or near the town, employing a number of local residents. The firm's goal was to establish an on-shore processing, storage, and transshipment facility to provide a reliable quantity of salted cod for an established world market, ultimately 10,000 tons per year. This local venture was not successful and experimentation with a salt cod industry shifted west to Akutan and Unalaska (LAI 1987:46).

Subsequent to that particular experiment, the groundfish industry in the region has been burgeoning. In many ways, groundfish in Sand Point is like a number of other fisheries that have preceded it. Until recently, salmon has been the main pursuit of local fishermen, and in the non-salmon seasons other species were sought. In years past, shrimp and various species of crab were the off-salmon-season target species and, in the words of one older resident, groundfish have become "substitute species" for earlier non-salmon target species. Conversions to allow local fishing vessels to target groundfish have run from between \$80,000 to \$165,000 in the recent past.

Since taking over the operation of the local plant in February, 1986, groundfish has been a component of Trident's processing operation, but there has been a shift in emphasis over their period of ownership. Whereas cod, sablefish, and halibut were formerly the most common groundfish species, there has recently been a concerted push toward Pacific cod. While there was some Pacific cod processed in 1986, significant expansion occurred in 1988 with the installation of the first local fillet machine. The plant operated year round in 1988, but since then fisheries quota-based closures have served to shorten the operations. In 1989, processing lasted through the closing of the Central Gulf on September 23; in 1990 it became impractical to get fish after the Western Gulf closed on May 10th. Openings are in January, but most of the local fleet begins catching in February and March and continues through closing, with fish being caught first in outlying areas. During 1990, approximately 36 million pounds of Pacific cod was run at the plant, of which 32 million pounds (or 89%) was handled during the period from February 10 through April 25. This volume dwarfs the approximately 1.5 million pounds of halibut, 1/2 million pounds of sablefish, and the "handful" of miscellaneous other groundfish species that were also run during 1990. While the halibut and sablefish levels have been relatively stable over the past few years, salmon has fluctuated significantly, with a range of six to nine million pounds over the last two years. Shellfish are less stable yet. Approximately 100,000 pounds of crab (primarily dungeness) were run in 1989, but not enough were available in 1990 to justify the expense of keeping the plant open. Year round operations are, of course, desirable to provide revenue to offset more or less fixed operating costs, and have spin-off economic effects, such as moving more freight across the city dock, etc. It should also be noted that a year-round fishery is a desired end because of safety issues. Short openings are seen to foster a "rodeo mentality" where there is tremendous pressure to be out on the fishing grounds every day during the open season no matter what the sea and weather conditions are because a few days in port could spell financial ruin.

Codfish processing capability has been a significant investment at the plant, and as a result is a high priority of the operation. Currently the plant is configured with three processing lines. One is a head and gut line, and the other two have Baader 185 fillet machines. Maximum capacity of the plant is approximately 600,000 round pounds per 24-hour period, but peak operations usually average between 550-560,000 pounds. Capacity has increased each year since 1988, when the plant could run 200,000 pounds per day. This figure increased to 300,000 per day in 1989, before reaching its present capacity in 1990. Because of Sand Point's location relative to stocks, Trident management has decided that adding the capability to process pollock is not worth the investment for the local facility.

In January of 1991, an additional processing company is going to attempt groundfish processing in Sand Point. New West Fisheries recently signed a contract with the city, and will moor a floating processor in the area of the city dock for the Pacific cod season. According to city officials, if New West is successful in processing 10 million pounds of Pacific cod in the round, then the company plans to invest \$10 million in a shore facility in the community.

The increasing value of groundfish to the region as a whole may be seen in Table 17, which presents the ex-vessel value of various fisheries within the Aleutians East Borough.

Fishery	1986	1987	1988
King Crab	11,160,000	44,610,000	8,160,000
Tanner Crab	16,925,000	4,300,000	27,300,000
Bottomfish	2,800,000	6,100,000	8,500,000
Halibut	2,700,000	6,450,000	4,040,000
Herring	660,000	590,000	570,000
Dungeness Crab	190,000	200,000	---
Salmon	40,500,000	37,570,000	84,200,000
Total	75,335,000	99,820,000	132,770,000

Source: Alaska Dept. of Fish and Game/state-local estimates. Cited from Aleutians East Borough 1989a:46).

The following tables (Table 18A - 18C) present data from the Alaska Department of Fish and Game Commercial Fisheries Entry Commission records on number of permits for fisheries in the Sand Point area and the landings based on these permits for 1986 - 1988.

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, hand troll	1	1	NA	NA
Halibut, longline vessel <5 tons	17	17	49,044	\$ 72,242
Halibut, longline vessel ≥5 tons	49	49	>633,293	>\$ 932,841
Sablefish, longline (> 5 tons)	5	5	232,830	\$ 207,878
Dungeness Crab	2	2	NA	NA
Herring	3	3	NA	NA
King Crab	2	2	NA	NA
Herring Spawn on Kelp	1	1	NA	NA
Saltwater Finfish	4	4	NA	NA
Salmon, beach and purse seine	46	46	13,402,927	\$6,256,284
Salmon, drift gill net	17	17	>1,257,169	>\$ 1,527,504
Salmon, set gill net	39	38	2,411,646	\$2,638,298
Tanner Crab, pots, vessel ≤50'	18	18	862,860	\$1,475,491
Tanner Crab, pots, vessel >50'	12	12	>617,378	>\$1,055,716
City Totals	113	215^c	19,894,017^c	\$14,854,648^c

^aTotal catch 19,894,017 pounds; total accounted for with specific figures is 19,492,571 pounds (98%). Thus % calculations are possible. Total earnings \$14,854,648; amount accounted for with specific figures is \$14,169,788 (95.4%).

^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.

^cThe city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.

Source: ADF&G, Commercial Fisheries Entry Commission, 1989.

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, hand troll	1	1	NA	NA
Halibut, longline vessel <5 tons	13	13	>56,655	>\$ 80,784
Halibut, longline vessel ≥5 tons	65	65	>847,406	>\$1,187,179
Sablefish, longline > 5 tons	14	14	>482,617	NA
Dungeness Crab, pots, vessel ≤50'	2	2	NA	NA
Herring, beach and purse seine	1	1	NA	NA
King Crab, pots, vessel >50'	5	5	>103,047	>\$385,190
Saltwater Finfish, longline <5 tons	5	5	17,661	NA
Saltwater Finfish, longline ≥5 tons	55	54	1,850,681	NA
Saltwater Finfish, various methods	3	3	NA	NA
Salmon, beach and purse seine	45	45	8,359,114	\$5,768,695
Salmon, drift gill net	56	54	>3,512,167	>\$ 4,771,580
Salmon, power troll	1	1	NA	NA
Tanner Crab, pots, vessel ≤50'	20	20	>772,244	>\$1,544,488
Tanner Crab, pots, vessel >50'	12	12	>498,349	>\$996,698
City Totals	122	297^c	17,868,791^c	NA

^aTotal pounds harvested was 17,868,791; 16,499,941 (92.3%) of this is specifically accounted for. No total value is given; specific values given add up to \$14,734,614.

^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.

^cThe city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.

Source: ADF&G, Commercial Fisheries Entry Commission, 1989.

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, hand troll	1	1	NA	NA
Halibut, longline vessel <5 tons	8	8	> 18,459	NA
Halibut, longline vessel ≥ 5 tons	56	56	> 387,738	> \$2,415
Sablefish, longline (> 5 tons)	7	7	203,158	NA
Dungeness Crab, pots, vessel > 50'	1	1	NA	NA
Herring, purse seine	3	3	NA	NA
Herring, gill net	3	3	NA	NA
King Crab, pots, vessel > 50'	3	3	NA	NA
Saltwater Finfish, set gill net	1	1	NA	NA
Saltwater Finfish, Otter trawl	7	7	2,077,683	> \$11,519
Saltwater Finfish, pots, vessel > 50'	6	6	> 438,075	> \$79,424
Saltwater Finfish, other	1	1	NA	NA
Saltwater Finfish, longline <5 tons	2	2	NA	NA
Saltwater Finfish, longline ≥ 5 tons	44	44	> 884,791	> \$164,487
Saltwater Finfish, various methods	3	3	NA	NA
Salmon, beach and purse seine	47	46	18,198,928	\$18,132,906
Salmon, drift gill net	16	16	> 996,214	> \$1,636,760
Salmon, set gill net	41	41	2,941,872	\$4,485,028
Salmon, troll	2	2	NA	NA
Tanner Crab, pots, vessel ≤ 50'	16	16	> 612,933	> \$1,344,162
Tanner Crab, pots, vessel > 50'	16	16	> 716,706	> \$1,571,736
City Totals	20	283 ^c	28,866,500 ^f	\$28,598,500 ^f

^a Total pounds harvested was 28,866,500; 26,867,202 (93.1%) of this is specifically accounted for. Total value is given as \$28,598,500; specific values given add up to \$27,426,022 (95.9%).

^b This column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.

^c The city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.

Source: ADF&G, Commercial Fisheries Entry Commission, 1989.

C. The Municipality

General financial information for the City of Sand Point for fiscal years 1986-1988 is presented in Tables 19 - 22. What is significant from these data for the purposes of fishery analysis is the increasing importance of sales and use tax, especially fish tax which is subsumed under sales tax, and boat harbor fees. These are the two primary sources of income that result directly from fishery activity, and their role has been growing in recent years. For example, in 1986 rentals comprised the largest share of revenues. However, in 1987 sales and use tax overtook rentals as the largest revenue source for the city.

Table 20 presents fish tax figures as broken out from sales tax for FY 86 through FY 90. Information on the breakout of harbor fees is presented in Table 21. Percentage contribution to total revenues from fish tax and harbor fees are presented in Table 22.

Table 19
Sand Point, Alaska
Combined Statement of Revenues, Expenditures,
and Charges in Fund Balance
Fiscal Years 1986 - 1990

	1986	1987	1988	1989	1990
REVENUES					
Sales Tax	275,158	312,691	433,833	562,835	475,637
Rentals	511,160	229,765	155,712	79,846	83,570
State Processor Tax	113,890	120,580	179,620	247,891	0
Proceeds from Bond Issue	0	30,000	501,400	0	126,019
Federal Revenue Sharing	13,965	5,026	0	0	0
State Revenue Sharing	188,502	162,843	154,528	141,448	148,422
Grants	0	0	0	0	0
Interest	31,767	59,712	41,191	20,789	33,683
Other	2,288	17,806	14,319	77,976	43,870
Total General Fund	1,136,730	938,423	1,480,603	1,130,785	911,201
Boat and Harbor Fees	130,322	186,444	226,620	255,835	247,485
Water & Sewer Fees	40,651	43,880	41,672	69,412	79,009
Gravel Sales Fees	0	0	0	104,574	157,679
Trash Collection Fees	0	0	0	0	33,440
Total Special Funds	170,973	230,324	268,292	429,821	517,613
TOTAL REVENUES	1,307,703	1,168,747	1,748,895	1,560,606	1,428,814
EXPENDITURES					
Administration	135,764	296,210	203,770	246,301	205,533
Council	39,624	46,199	129,066	44,537	51,554
Parks & Recreation	0	0	11,019	0	0
Planning & Zoning	0	0	0	0	0
Public Safety, Police	119,622	96,708	125,434	149,772	165,543
Public Safety, Fire	3,000	4,380	3,500	2,549	2,498
Public Works, Maintenance	238,132	237,829	282,104	253,919	342,327
Public Works, Facilities	107,954	72,563	106,607	46,736	69,196
Other	174,026	113,479	143,441	269,917	183,332
Total General Fund	818,132	867,368	801,171	1,013,731	1,019,983
Boat Harbor	153,107	206,941	233,922	264,862	319,552
Gravel Sales	0	0	0	94,912	117,107
Trash Collection	0	0	0	0	25,147
Water & Sewer	23,008	60,724	73,939	70,179	70,884
Capital Improvements	63,603	0	236,541	0	0
Total Special Funds	239,718	267,665	544,402	429,233	532,690
TOTAL EXPENDITURES	1,057,850	1,135,033	1,345,573	1,442,964	1,552,673
Source: City of Sand Point records.					

Table 20 Sand Point Fish Tax and Total Sales Tax FY 86 - FY 90			
Year	Total Sales Tax	Fish Tax	Fish Tax as % of Total Sales Tax
FY 86	\$275,158	\$168,237	61.1%
FY 87	\$312,691	\$207,908	66.5%
FY 88	\$433,833	\$287,914	66.5%
FY 89	\$562,835	\$387,628	68.9%
FY 90	\$475,637	\$307,018	64.5%
Total, FY 86-90	\$2,060,154	\$1,358,705	65.9%
Source: City of Sand Point			

Table 21 Boat Harbor Fees by Category Sand Point, FY 89 and FY 90		
Type of Fee	FY 89	FY 90
Moorage	\$98,034	\$116,149
Travel Lift	\$94,084	\$78,651 ^a
Wharfage	\$46,999	\$42,582
Miscellaneous	16,718	\$10,103
Total	\$255,835	\$247,485
^a Fees decreased from previous year due to a specific time-consuming job not decreased demand; lift business had to be turned away. Source: City of Sand Point		

Table 22
Sales Tax and Boat Harbor Fee Composition and Percentage of Total Revenue,
Sand Point, FY 1986 - 1990

Fiscal Year	Sales & Use Tax		Boat Harbor Fees				Total Revenues		
	% Fish Tax	% Other	% Moorage	% Travel Lift	% Wharfage	% Misc	% Fish Tax	% Total Sales	% Boat Harbor
1986	61.1	39.9	--	--	--	--	12.9	21.0	10.0
1987	66.5	33.5	--	--	--	--	17.8	26.8	16.4
1988	66.5	33.5	--	--	--	--	16.5	24.8	13.0
1989	68.9	31.1	38.3	36.8	18.4	6.5	24.8	36.0	16.4
1990	64.5	35.5	46.9	31.8	17.2	4.1	21.5	33.3	17.3

Source: City of Sand Point

One set of changes in municipal finances in the recent past in Sand Point came about as a result of the formation of the Aleutians East Borough. For example, the city has, in financial terms, "gotten rid of the school" in the sense that it has neither the revenues nor the liabilities associated with its operations. Fish tax revenues are shared differently as a result of the borough formation as well. As an independent municipality, Sand Point split fish tax revenues 50/50 with the state; as a member of the borough the division is 50/25/25 between state/borough/local. One very significant advantage to borough formation, from the perspective of Sand Point, has been access to funding for capital improvements. Although state revenues are declining, there is a significant area-wide tax base within the Aleutians East area. So far, funding has been obtained for \$650,000 worth of harbor expansion and an additional \$2.25 million (from a \$2.5 million grant from the Federal Aviation Administration to the state) is dedicated to airport improvements. While there has been support for expansion of the airport on the highest levels of government for the purposes of local economic development, local concerns for airport improvement also focus strongly on safety problems at the existing airport facility.

D. Infrastructure

1. Solid Waste Disposal

As with all of the communities within the Aleutians East Borough, Sand Point is facing severe regulatory and public health dilemmas with solid waste collection and disposal. The existing dump is located three miles from town. It is nearing capacity and has operating problems "relating to the scarcity of suitable cover material in the region" (HDR Engineering, Inc. 1990). In addition, the Federal Aviation Administration has expressed concerns about the hazards resulting from the dump being located less than the required 10,000 feet from the airport, as the birds that congregate around the dump are a significant

threat to safety (HDR Engineering, Inc. 1990). It was recommended by the engineering consultants to the Borough that the existing landfill be closed and a new site developed that makes use of a baler. Total costs for such a project are estimated to be \$957,000 with annual maintenance costs of \$65,000 (HDR Engineering, Inc. 1990). The 1990 - 1995 Capital Improvements Program contains plans for sanitary improvements to begin in fiscal year 1990.

2. Transportation

The region encompassed by the Aleutians East Borough is poorly connected by air transportation. Cold Bay has the only runway with an instrument landing system and so had served as a regional transportation hub until Mark Air began direct jet flights to Unalaska/Dutch Harbor. Since then, Cold Bay's role as a hub has lessened. The airport at Sand Point is the only one within the Borough, besides Cold Bay, which has a lighted runway. Travel between communities in the Borough is time consuming and costly because travelers must backtrack through Anchorage (Professional Growth Systems, Inc. 1990:10).

In addition to the inconvenience of traveling from Sand Point to locations other than Anchorage or Seattle, the airport itself does not meet FAA standards in many regards. There are plans to begin an airport realignment/expansion in fiscal 1991. This project is estimated to cost \$12.75 million dollars. The project will be funded with: \$2.25 million in general obligation bonds that the Borough is unlikely to issue within the next 24 months; \$0.5 million City of Sand Point funds for permitting and design, which has been spent already; and \$10 million in State and Federal grants (Aleutians East Borough).

Travel to Sand Point is expensive, with a round trip to Anchorage (in early 1991) costing between \$535 and \$725 depending upon ability to meet advance purchase and scheduling restrictions. Service is offered six days a week during the summer months, but for six months of the year flights are restricted to four days a week. Weather caused cancellations are frequent, and week stretches without a flight are not uncommon.

Road improvements and construction are also planned for Sand Point. Phase I, to begin in fiscal 1990, is expected to cost \$440,000.

3. Harbor

The harbor facility at Sand Point is the product of federal and state efforts but is locally operated. The U.S. Army Corps of Engineers completed the existing small boat harbor breakwater in 1976, and retains an ownership interest in it, although it is now effectively incorporated into the city infrastructure; the state was responsible for inner harbor development, but this facility is operated by the city under an agreement with the state. The 1990 - 1995 Capital Improvements Program for Sand Point states that expansion of the

harbor, which has already begun, will continue through 1994. Of the 138 slips at the boat harbor, approximately 110 were occupied by commercial vessels at the time of field research in September, 1990, which is a slow period. The need for harbor expansion becomes all the more apparent when one considers that the local commercial fishing fleet is counted at 134 vessels.

IV. SOCIOCULTURAL PROFILE

A. Social Organization

This section on social organization addresses the types of governments and social services which play a role in the Sand Point community. These include the borough and municipal governments, the quasi-governmental, regulatory, and industry organizations, as well as social service providers.

1. Government

The primary local government institution in Sand Point is the city of Sand Point, which has governed by means of a six-member elected city council and an elected mayor since the community incorporated as a first class city in 1978. The council and mayor decide on the policy and developmental objectives for the city. The city manager, who resides in and works out of a Sand Point city office in Anchorage 75% of the time and is in Sand Point the remaining 25%, is responsible for the implementation of these objectives. There is a planning commission which consists of five elected members who determine zoning and planning policy, and there is locally-elected health board which addresses city health issues.³ Local government positions feature a high degree of continuity, with the only significant turnover in recent years occurring in the police department.

Sand Point is part of the Aleutians East Borough which was incorporated in October of 1987 (Aleutians East Borough 1989b). Other communities within the Borough are Cold Bay, King Cove, Nelson Lagoon, False Pass, and Akutan. The borough is active in lobbying on fisheries issues, and offers more political clout on regional and state issues than could its member communities acting independently. The borough has region-wide planning powers, and provides oversight on projects outside of the boundaries of its constituent municipalities.⁴ A primary purpose of the borough is to foster economic development

³Until the formation of the Aleutians East Borough, Sand Point had an active, locally-elected school board. With borough incorporation, however, a regional board was created and the local board was dissolved.

⁴Prior to the formation of the borough, the single institution with formal status as a political entity for the area was the Aleutians East Coastal Resource Service Area (CRSA). Established under the authority of the Federal Coastal Zone Management Act of 1972 and the Alaska Coastal Management Act of 1977, the Aleutians East CRSA was charged with the development and management of commercial and subsistence resources in the region's coastal zone (LAI 1987:23). The functions are now included under the borough's planning powers, and the CRSA has ceased to exist as a separate entity.

through capital improvements projects and fisheries development.⁵ The borough also exercises area-wide harbor and airport powers, and in 1990 voted to assume health powers.

The entire Borough population was 2,458 in 1988. Unlike many boroughs in Alaska which are heavily dependent on one source of tax revenue, the Aleutians East Borough revenues come from a number of independent fish stocks. Consequently, it is highly unlikely that a major crash of one of the species would have ill effects on the financial capabilities of the Borough. As a hedge against economic fluctuation, the borough has also created a permanent fund, which had grown from \$750,000 in 1988, to \$3 million in 1989, and to \$4 million in 1990. According to the Alaska Department of Labor, summer unemployment in the borough of 0.8% is the lowest of any area of the state. A breakdown of the borough population by community is presented in Table 23.

Cold Bay	250
King Cove	798
Nelson Lagoon	60
False Pass	83
Akutan	274
Sand Point	993
Total	2,458

Source: Aleutians East Borough (cited from Professional Growth Systems, Inc. 1990:7).

The Alaska Department of Labor census for 1985 provides information on the ethnic breakdown of the Borough's communities. This is shown in Table 24.

Community	1985 Population	% Alaska Native	% Non-Native
Akutan	80	96%	4%
Cold Bay	157	9%	91%
False Pass	77	86%	14%
King Cove	547	80%	20%
Nelson Lagoon	44	93%	7%
Sand Point	671	57%	43%

Source: Alaska Department of Labor, 1987, Alaska Population Overview (cited from Professional Growth Systems, Inc. 1990:8).

⁵Interestingly, the creation of the borough did not come about directly because of fisheries issues. Rather, the direct impetus for incorporation was provided by oil activity. The Bristol Bay lease sale #92 by the Minerals Management Service, combined with local knowledge of the impact of oil companies in the Shetland Islands, galvanized area residents to action.

The State is represented by four agencies in Sand Point: (1) the Department of Transportation and Public Facilities, which maintains the airport; (2) the Alaska Department of Fish and Game, which is charged with fish and game management in the area; (3) the Alaska Department of Public Safety which has a state trooper stationed in the community who also serves other communities in the region; and (4) the state judicial system which has a District Court with a magistrate's position in Sand Point. The federal government's presence in the community is largely confined to the post office. Many of the administrative, educational, and health services provided by state and federal agencies in other communities elsewhere in the state have been assumed by either the City of Sand Point or the Aleutians East Borough.

2. Quasi-governmental and Native Organizations

In addition to these public governmental organizations, the local Native Corporations established under the auspices of ANCSA, the Shumagin, Unga, and Sanak Corporations, while ostensibly economic institutions, function as important political groups or quasi-governmental organizations representing the interests of the local Aleut population (Combs 1982:118). In 1982, there were 409 members of the Shumagin Corporation which is the largest land owner in Sand Point. The corporation elects a nine member Board of Directors whose mandate is to define corporation objectives (Combs 1982:120). The Shumagin Corporation has a number of investments in the city, and in 1990 these included two taverns and one hotel. According to one corporation official, business is up at the taverns due to the recent expansion of the Trident Seafoods shore plant, but this expansion has not caused a noticeable increase in business at the hotel.

The Shumagin Corporation is also currently involved with land development for residential use within the community. In late 1990 a subdivision was under development that included 10 new HUD-funded homes on corporation land. Unlike some HUD-funded housing projects in other area communities, the homes in Sand Point's new subdivision have been spaced apart with empty lots in between to encourage growth of an area that is a mix of public and privately finance homes, as the necessary utilities will have been put in place and roads constructed. In this way, the community will get the "biggest bang for its buck."

The Unga Corporation has 45 members. It is based in Sand Point but composed of former residents of Unga village on neighboring Unga Island. Its principal assets consist of a limited number land holdings. Development of these assets has been limited in the past because of disagreement about the extent of the original land entitlement from ANCSA (Combs 1982:120). The smallest village corporation in the area is the Sanak Corporation with only 25 members. Analogous to the situation with the Unga Corporation, the principal asset of the Sanak Corporation is its land holding on Sanak Island. As of 1982, their only venture had been to lease some land for cattle ranching. Apparently, the members of the corporation did not intend to seek rapid development or profits from the land. They instead

wanted to retain the land and pass it on to succeeding generations as a part of their local past (Combs 1982:121).

Sand Point is located within the geographic boundaries of the regional for-profit Aleut Corporation. However, perhaps because of the dynamic growth of local units of government and village corporations, the Aleut Corporation and the other regional corporation, the non-profit Aleutian/Pribilof Islands Association (APIA), have played relatively minor roles in Sand Point (Combs 1982:121) compared to some of the other communities in the region. The role of the APIA, which in other communities typically administers health and social service programs, was further eclipsed in Sand Point when the Aleutians East Borough recently assumed area-wide health powers. However, because the Aleut Corporation controls sub-surface rights for those lands selected by the local village corporation (in this case, virtually all the land in the Sand Point area), a working relationship between the City, Aleut Corporation, and Shumagin Corporation must be maintained if the city is to retain access to local gravel and rock borrow sites for use in road and harbor development (IAI 1987:26).

One important regional-level organization in which Sand Point residents play a major role is the Peninsula Marketing Association (PMA), the collective bargaining arm of the fishermen of the Alaska Peninsula (from Sand Point to Nelson Lagoon). Sand Point fishermen organized this association in 1966 which received opposition early on from processors. While still active, the PMA is currently less influential than in recent years. In 1981, the PMA represented 95% of the fishermen in its region, and Sand Point residents held four seats on its seven-member board of directors (Combs 1982:121-2). The PMA traditionally undertook two major responsibilities on behalf of its members. First, it initiated and conducted price negotiations with the processors each spring, generally arriving at a settlement just in time for the opening of the South Unimak fishery. Second, it represented the political interests of its members in the regulatory process. More recently, the PMA has had difficulty retaining its preeminent position, for a number of reasons. Primary among these is that the nature of the fishery has changed to the point where conducting price negotiations is extremely difficult, as prices are now strongly influenced by outside forces. Second has been the growth of other fishermen's associations. The "Stepovak Bay Set Netters Association" now represents the interests of the local setnetters, and the "Concerned Area M Fishermen" represents the interests of the non-local drift gillnet fleet that operates in the area. This is not to say that the PMA has become inactive. The PMA has been militant in its role in a lawsuit that has been approximately two years in the making over allocation issues in Area M, and it has also been working with an Alaska Department of Fish and Game planning team to explore and develop salmon enhancement programs.

3. Social Services

a. Health

The State of Alaska, Alaska Area Native Health Service, Aleutian Pribilof Islands Association, and individual cities within the Aleutians East Borough all contribute to the delivery of health care in Sand Point. There is currently a small clinic in the community, the Sand Point Clinic, which is staffed by a mid-level practitioner, two community health aides, and a business office manager. The clinic "provides general medical care, including preventative medicine, acute and trauma care, well baby services, etc. . . . Severe or complicated cases, or cases requiring extensive diagnostic services, are routinely referred to other medical facilities in Anchorage for treatment" (Sand Point Clinic 1990:3). In 1988, the clinic averaged about 12 patients per day, about 50% of whom initially see the community health aide (Professional Growth Systems, Inc. 1989:52). In 1990, the clinic averaged 180 patient contacts per month, which were split evenly between the Mid-Level Provider and the Community Health Aide. Patient fees comprise approximately 44% of the clinic's revenue, according to clinic staff.

As part of the newly-formed Aleutians East Borough, Sand Point is seeking to improve its health delivery system. To assess the future role of the Borough in local health care, a study was undertaken by Professional Growth Systems, Inc. (1989). The study reviewed the health planning documents pertaining to the region, and conducted more than 50 interviews with past and present players in the delivery of health and social services to the region, participated in numerous interviews and public meetings in Borough communities (Professional Growth Systems, Inc. 1989:1). The study found some rather alarming facts about the health status of residents of the Borough. Although the overall death rate for the Aleutians as a whole (including St. Paul and St. George) was lower than that for the Bristol Bay region, the distribution of deaths to Natives and deaths resulting directly from alcohol were heavily disproportionate. For example, Natives constituted 25% of the population in 1985 but accounted for 66% of the deaths (Alaska Vital Statistics Annual Report 1985:117; cited from Professional Growth Systems, Inc. 1990:12). And, while the Aleutians are home to 1.7% of the state's population, the region accounted for 7.6% of the state's deaths resulting directly from alcohol. The region contributed 4% of the state's suicides whereas Bristol Bay accounted for 1.6%. Sixty percent of the suicides were among the Native population (Professional Growth Systems, Inc. 1990:12). One resource was recently withdrawn from the community: in June, 1990 the APLA Aleutian Counselling Center closed its satellite office in Sand Point, and will maintain services for the Aleutian Chain only.

Recommendations for improvement of the health delivery system for the Borough as a whole were made in the Professional Growth Systems study. Among the recommendations for action within the next two years were the following:

- Acquire grants to upgrade and make uniform the salary and benefits offered to mid-level practitioners in King Cove, Sand Point, and Cold Bay. These actions will aid initial recruitment and reduce turnover.
- The Borough should hire a health planner to assist in the overall development and coordination of health powers for the Borough communities.
- Expand the health education program in Borough Schools.
- Hire floating mid-level practitioners to back up the regular mid-level practitioners during peak demand periods.

According to the Borough Administrator, in March, 1990, the Aleutians East Borough had an election to assume health powers, which passed with a 92% affirmative vote, and is now in the process of establishing a health department. Initially, this will cover alcohol and drug abuse counseling, a mental health clinician, and a domestic violence prevention program, with the intent of expanding services in the future. It is expected that the borough department will eventually supplant services presently being provided either by the state or by non-profit organizations.

Specific medical needs are created by the fishing industry in Sand Point. These are both on-the-job injuries at the shore plant as well as traumatic injuries sustained by fishermen at sea. "The development of the winter cod fishery is producing an increase in clinic demands, especially for the treatment of respiratory illnesses such as pneumonia and bronchitis" (Sand Point Clinic, 1990:2), but according to clinic staff there has been a decline in reports of these illnesses in the past year after physical working conditions at the Trident plant were improved.

Medical emergencies requiring transport out of the community may be handled either by scheduled carrier or medivac flight. Either option is expensive. If the patient travels by scheduled carrier additional seats must typically be purchased for a medical escort and/or for the non-ambulatory patient. Medivac flights cost a minimum of \$1,500 and costs increase substantially if additional specialized care is required.

b. Emergency Services

The city of Sand Point retains a police department, volunteer fire department, and a rescue squad. Levels of activity peak in the summer with the presence of fishing crews in the community. According to the chief of police, disturbance calls in the community are much more highly correlated with transient boat crews than processing workers. Processing workers, although typically residents of relatively short duration, do have stronger ties to the community than outsiders from the vessels.

Few statistics are available to document police levels of activity in Sand Point. The District Court at Sand Point receives cases from a number of different agencies, including the Sand Point Police Department, the King Cove Police Department, the Alaska State Troopers, area Village Public Safety Officers, and the state Fish and Wildlife Protection officers. Sand Point police have filed approximately 45% of total criminal charges filed at the court over the past two years. Table 25 presents those data that are available on recent local filings. Presented in the same table are data on the number of cases filed by the Sand Point Police Department that were referred to the District Attorney, which provides an indication of level of attempted prosecution.

Category	1988	1989	1990 ^a
Total Charges Filed	142	156	118
Charges Filed by Sand Point Police	N/A	74	52
SPPD Charges Referred to District Attorney	40	41	38

^aThrough September 15, 1990
Source: Sand Point Police Department, unpublished memorandum.

Another measure of police activity is by means of prisoner accounting. The only year for which complete records are available is 1989. These data are presented in Table 26, and give an indication of the increase in police activity that occurs during the summer months in Sand Point.

Month	Total Number of Prisoners	Associated Officer Man Days
January	3	8.0
February	0	0.0
March	6	7.5
April	10	14.5
May	11	21.0
June	23	23.5
July	7	5.0
August	9	7.5
September	3	2.0
October	5	11.0
November	7	8.5
December	5	15.5
Total	89	124.0

Source: Sand Point Police Department,
unpublished memorandum.

B. Sociocultural Values

1. Religion

Sand Point features a number of religious denominations. The oldest is the Russian Orthodox Church. The Sand Point Russian Orthodox church building, St. Nicolas Chapel, was built around 1933 or 1934, and received a certificate of merit in historic preservation for listing in the National Register in 1980 (Sand Point High School 1982:71). There has not been a resident Orthodox priest in Sand Point for many years, but there is still a formidable lay leadership. Sunday services are conducted by the lay reader, an elder Aleut woman. The average attendance each week is fairly small, typically less than two dozen people, although the large majority of the community is still at least nominally affiliated with the church.

As of 1987, there were two Baptist congregations in Sand Point, the Sand Point Baptist Chapel and the First Baptist Church. The latter separated from the former to become independent about 1980. The Sand Point Baptist Chapel is the larger of the two. The two major groups of families associated with The Baptist Chapel are former residents of Sanak Island. This congregation is perceived as fundamentalist and anti-alcohol. Both churches have a resident pastor, and worship and Bible study services are held several times during the week.

The Baptist Church in Sand Point, as elsewhere, is an evangelical and proselytizing tradition, and considerable effort is devoted to converting non-members despite their participation in another religious tradition. Combs reported several informants in 1981 who felt that the integrity of the Russian Orthodox faith was being challenged by these efforts to convert (1982:128). In their view, the Baptist Church was too forceful and intolerant.

There are three more denominations represented in Sand Point although they have small followings. The Roman Catholics in the community meet periodically for Bible study with a nun who visits from Anchorage, and Sunday services are conducted by a priest who visits from Dillingham every two to three months. The Church of Jesus Christ of the Latter Day Saints has a few local members, as does the Baha'i faith which has eight to ten members. Neither of these represent an organized institution in the community (IAI 1987:34).

2. Views on Resource Management

The City of Sand Point is regarded throughout the region as one of the most progressive communities in the Aleutian/Alaska Peninsula region. It has long recognized that the state will continue to have fewer resources for community development and that it must focus development objectives with the idea of attaining long-term self-sufficiency. Accordingly, the community has initiated efforts to induce processors to move to Sand Point.

3. Subsistence Activity

Although Sand Point has a very long history of a viable, fisheries-based commercial economy, subsistence harvest of fish and wildlife is still an important facet of the economy in general. According to the Aleutians East CRSA survey of 1983, the majority of Sand Point residents fish, hunt, and pick berries for personal and home use: 87% fish, 65% hunt, and 91% pick berries. Subsistence activities were considered important by 71% of the respondents; somewhat important by 28%; and not very important by only one percent. However, unlike some other communities in the region, a significant number of Sand Point residents conduct subsistence activities more for recreation (i.e., as leisure activity) than out of economic necessity or for maintaining kin networks of subsistence distribution.

The primary subsistence species harvested are caribou and salmon. Residents hunt caribou on the Alaska Peninsula in the fall and winter. Families consume one to four caribou a year depending on their reliance on subsistence food. Salmon are taken in addition to the commercial catch and are generally frozen, although some are preserved in other ways such as smoking or drying (IAI 1987:48-9).

Annual estimates of subsistence salmon consumption range from 50 to 200 fish per family. Ducks and geese are also harvested. Hunting occurs in Left Hand Bay on the Alaska Peninsula, Unga Island, and as far away as Izembek Lagoon and Nelson Lagoon. Other

local foods gathered by Sand Point residents include crab, sea gull eggs, shellfish, berries, and beach celery. Marine mammals are not harvested by Sand Point residents (Nebesky, Langdon, and Hull 1983). Recent subsistence figures from Alaska Department of Fish and Game estimates are presented in Tables 27 and 28. Table 27 displays salmon subsistence permit information, and Table 28 displays the number of shellfish subsistence permits issued to Sand Point and Cold Bay residents. No separate breakout of Sand Point shellfish subsistence permits is available.

Year	Permits		Percent Returned	Projected Catch (Fish)					
	Issued	Returned		Kings	Sockeye	Coho	Pink	Chum	Total
1986	75	36	48.0	45	2,505	1,208	1,560	1,005	6,323
1987	84	62	73.8	87	2,018	1,508	1,160	1,114	5,887
1988	74	52	70.3	146	2,694	853	1,326	1,175	6,194
1989	86	63	73.3	53	6,347	1,050	731	1,149	9,330

Source: Alaska Department of Fish and Game.

Community	1988	1989	1990
Sand Point/Cold Bay	26	49	2 ¹

¹This low figure may be accounted for by the closing of the ADF&G shellfish office in the community in 1990.

Source: Alaska Department of Fish and Game.

For many residents, kinship plays a role in organizing subsistence activities. Family members operating set and drift gillnet gear usually fish for salmon for subsistence purposes incidental to the commercial salmon harvest. Similarly, berry-picking is a family activity. Some exchange of subsistence items occurs between Sand Point residents and residents of other communities such as Unalaska and King Cove. However, it appears that kinship plays a greater role in subsistence production than it does in subsistence distribution. The distribution of subsistence items for the purpose of maintaining traditional social networks appears to be less important in Sand Point than elsewhere (IAI 1987:32).

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**COMMUNITY PROFILE DEVELOPED FOR THE
SOCIAL IMPACT ASSESSMENT OF THE
INSHORE/OFFSHORE AMENDMENT PROPOSAL**

St. Paul, Alaska

Submitted to

North Pacific Fishery Management Council

Submitted by

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Table of Contents
Saint Paul Community Profile

INTRODUCTION	1
POPULATION	3
Size and Composition	3
Population Composition	8
Household Size and Composition	18
Educational Status	20
SOCIOECONOMICS	23
Economic Profile	23
Infrastructure	30
The Fishery	31
History of the St. Paul Halibut Fishery	32
Current (and Potential/Developing) Fish Processing in St. Paul	34
The Local View of Fish Processing in the Economy of St. Paul	38
SOCIOCULTURAL PROFILE	42
Social Organization	42
Government	42
Federal and State Institutions	45
Regional Institutions	45
Local Institutions	46
City of St. Paul	46
Aleut Community of St. Paul	47
Tanadgusix Corporation	49
Social Services	51
Sociocultural Values	53
Kinship and Informal Associations	53
Voluntary Associations	55
Religious Organization	56
Social Differentiation	57
Sociocultural Values and Views on Resource Management	58
Subsistence	58
REFERENCES	60

SAINT PAUL, ALASKA

I. INTRODUCTION

The community of St. Paul is located on St. Paul Island, one of the Pribilof Islands in the southeastern quadrant of the Bering Sea. The Pribilofs are situated 240 miles north of the Aleutian Islands, 300 miles west of the Alaskan mainland, and approximately 750 miles west southwest from Anchorage.

The community traces its history back to the late 18th century, when Russian fur traders brought Natives from Atka and Siberia as hunting crews for the commercial harvest of fur seals (Veniaminov 1840). The island was administered by the Russian American Company until the sale and transfer of Alaska from Russia to the United States in 1867. In 1870, the U.S. Government awarded a twenty-year sealing lease to the Alaska Commercial Company, which provided housing, fuel, food, and medical care to the Native residents in return for participation in the fur seal harvest. A second twenty-year lease was awarded to the North American Commercial Company in 1890. By this time, however, the number of seals had declined significantly due to over-harvesting, and a period of severe poverty ensued (Jones 1980). The 1910 Fur Seal Act formally ended private leasing of the islands and placed both the community and the fur seal harvest under the control of the Bureau of Fisheries. Under Federal Government control, food and clothing were scarce, social and racial segregation were practiced, working conditions were poor, and restrictions on travel and exile from the island as punishment for "misbehavior" were invoked (Orbach and Holmes 1983:18). During World War II, St. Paul Aleuts were moved to Funter Bay on Admiralty Island as part of the general evacuation of Aleuts from the Bering Sea region. Despite the improvement of social and economic conditions after the war and the gradual acquisition of a measure of local control, St. Paul remained politically and economically dependent on the Federal Government (lately in the form of the National Marine Fisheries Service) until very recently.

An array of conflicting events occurred almost simultaneously and affected the community of St. Paul during the mid-1980s. First, on October 13, 1983, the National Marine Fisheries Service (NMFS) withdrew from the island, ending an era of direct or indirect federal control which began with U.S. acquisition well over a century ago. In doing so, NMFS transferred its responsibility for management of the annual fur seal harvest and provision of essential community services (e.g., power, water, sewerage, and road maintenance) to local entities. The prospects for the vitality of the community would probably have been bleak were it not for certain other events. One was the passage of the Fur Seal Act Amendments by Congress (P.L. 98-12) in 1983. These amendments terminated federal administration of the Pribilof Islands and allocated \$20 million (\$12 million for St. Paul and \$8 million for St. George) for the "orderly transition" to local governmental and economic control of services previously provided by NMFS in support of the fur sealing operations of the islands. Known as the "St. Paul Trust," the expressed objective of these funds was to encourage the establishment of a stable, enduring, self-sufficient, and diversified economy no longer dependent on sealing

for its economic existence. A second event was the Indian Claims Commission settlement of July 1979, which provided \$8.5 million (known as the "corned beef" money) to the Aleut communities of St. George and St. Paul in 1983 as partial compensation for the unfair and unjust treatment of Pribilof Islanders by the Federal Government between 1870 and 1946. Third, was the initiation of several major construction projects throughout the community, including the initiation of the breakwater (harbor) construction project, Housing and Urban Development (HUD) and Public Health Service (PHS) construction projects, and electrical generation projects. All of these events came to fruition at virtually the same time and constitute the backdrop for the current situation in the community of St. Paul.

In general, these events had two major impacts on the local community. First, they created a struggle for the control of economic resources by local institutions. The responsibility for administration of the island and its economic system was transferred to local institutions but revenues remained subject to control by the external political-economic system (and in fact at least one "local institution" was at least partially a creation of these external forces as expressed in ANCSA). This has led to competition for these resources and revenues by the local institutions. Second, the NMFS withdrawal encouraged the emergence of widespread feelings of uncertainty about the future of St. Paul, both within the community and among potential outside investors. Such feelings preceded a brief but intense period of economic growth and expanded employment opportunities, and have continued into the present. The two cash settlements are now depleted with relatively little to show as a return, and the harbor has opened, but is not as yet fully developed and has not yet established itself as the basis of a new local economy. These dynamics will be described as necessary in the appropriate sections below. For a more detailed treatment of the evolution of St. Paul through this turbulent period of the mid-1980s the reader is referred to Impact Assessment 1987 and Impact assessment 1988.

II. POPULATION

A. Size and Composition

The population of St. Paul, the larger of the two Pribilof islands, has been composed primarily of Native Alaskans for over 200 years. However, it is doubtful the Pribilofs had been inhabited prior to 1787, when Natives from Atka and Siberia were forced to relocate there by the Russians (although there is evidence that the islands had been visited by both Natives and Europeans prior to that time -- Torrey 1983:43-47). The purpose of settling the Pribilofs was to exploit the tremendous fur seal population. At first, the settlements on both St. Paul and St. George were seasonal, based exclusively on the fur sealing industry. Eventually, the communities became year-round permanent settlements -- due to the existence of subsistence resources on the islands, as well as pressures to conduct the seal harvest in the most economical way possible in the face of declining seal populations and a reduced labor force to draw upon (Kevin Waring Associates [KWA] 1988a:754, Torrey 1983:47-61). This data profile will not review the history of sealing on the islands in any greater depth, except to remind the reader that the seal harvest was stopped on St. George in 1983 and on St. Paul in 1985. It is this termination of the seal harvest which had always been the dominant element of the Pribilof economy, and the search for a substitute activity to serve as the basis for a sustainable local economy, which underpins all social and economic dynamics on the Pribilofs today. This data profile will deal almost exclusively with the current St. Paul community and so will discuss the seal harvest of the past only in passing, in the context of its importance to understanding the present. The reader interested in a more detailed history of St. Paul prior to 1985 is referred to KWA 1988, Torrey 1983, and Elliot 1881.

Population estimates for St. Paul beginning as early as 1825 and going through to 1987 are shown in Table 1. As is true of most communities in Alaska, the figures are far from precise). This table indicates that the population of St. Paul increased steadily until the early 1980s. For the period between 1960 and 1980, St. Paul's population grew at a steady annual rate of 1.9 percent. However, after 1980 the Alaska Department of Labor figures indicate that the population declined at an average annual rate of -3.4 percent. By 1985, the St. Paul population had dropped to what it was in 1970. However, this conclusion is based on censuses conducted by the Alaska Department of Labor using U.S. Census methodology. Censuses conducted by the Alaska Department of Community and Regional Affairs (DCRA) found the population to be larger than those from the Department of Labor during the mid-1980s. Consequently, it is not certain whether there was a population decline or not. The accuracy of these population figures depends on a number of factors, but one key consideration is one's definition of what constitutes a "resident." Even if the DCRA numbers are accurate (and the consistency of the number raises some doubts) the population was certainly stable following the NMFS pull-out, and certainly was not growing.

It is important to see the population statistics in their political context. The federal government, through the National Marine Fisheries Service (NMFS), exerted a great deal

of influence over the migration of Aleuts to and from St. Paul prior to and during the 1980s - the period of transition from federal to local control beginning in 1983 (IAI 1987:150). In the period after the withdrawal of federal control over St. Paul there is a consistent decline in the population (and the DCRA figures can be interpreted as perhaps inflated in view of DCRA's programmatic interests). The departure of NMFS had significant impacts on employment, which in turn probably affected out-migration (hard statistical information is lacking, but all key informants agree on this point). In fact, out-migration seems to have had a far greater impact on population size (and composition) in the last decade than have births and deaths. Prior to this period, employment was the reason most males emigrated from St. Paul and marriage was the reason most females emigrated. Statistics on population trends for St. Paul based on U.S. Census and Alaska Department of Labor appear in Table 2 below. This table shows population decline during the mid 1980s. The destination and reason for permanent departures from St. Paul for the years 1926 - 1966 are shown in Table 3.

Table 1 Population Estimates St. Paul, 1825 - 1987			
Year	Census	Other Estimates	Sources of Other Estimates
1825		130	Dmytryshyn - Colonial Russian America
1870		239	Elliott (includes 8 whites)
1872		235	Elliott, 1898
1876		243	St. Paul Community
1880	298		
1887		237	U.S. Treasury Dept., 1889
1888		227	U.S. Treasury Dept., 1889
1890	241	213	U.S. Treasury Dept., 1898
1892		196	U.S. Treasury Dept., 1898
1894		204	U.S. Treasury Dept., 1898
1895		207	U.S. Treasury Dept., 1989
1910	201		
1920	212		
1926		202	BCF (St. Paul Community Study)
1927		189	BCF (St. Paul Community Study)
1929	247		
1930		222	BCF (St. Paul Community Study)
1931		232	BCF (St. Paul Community Study)
1932		232	BCF (St. Paul Community Study)
1933		230	BCF (St. Paul Community Study)
1934		233	BCF (St. Paul Community Study)
1935		227	BCF (St. Paul Community Study)
1936		256	BCF (St. Paul Community Study)
1937		256	BCF (St. Paul Community Study)
1938		253	BCF (St. Paul Community Study)
1939	299	259	BCF (St. Paul Community Study)
1940		261	BCF (St. Paul Community Study)
1942		189	BCF (St. Paul Community Study)
1943		241	BCF (St. Paul Community Study)
1944		254	BCF (St. Paul Community Study)
1945		257	BCF (St. Paul Community Study)
1946		275	BCF (St. Paul Community Study)
1947		287	BCF (St. Paul Community Study)
1948		291	BCF (St. Paul Community Study)
1949		291	BCF (St. Paul Community Study)

1950	359	308	BCF (St. Paul Community Study)
1951		311	BCF (St. Paul Community Study)
1952		323	BCF (St. Paul Community Study)
1953		322	BCF (St. Paul Community Study)
1954		326	BCF (St. Paul Community Study)
1955		340	BCF (St. Paul Community Study)
1956		326	BCF (St. Paul Community Study)
1957		334	BCF (St. Paul Community Study)
1958		319	BCF (St. Paul Community Study)
1959		345	BCF (St. Paul Community Study)
1960	378	380	Ak. Dept. of Labor (July)
1960		350	BCF (St. Paul Community Study)
1961		337	BCF (St. Paul Community Study)
1962		340	BCF (St. Paul Community Study)
1963		330	BCF (St. Paul Community Study)
1964		355	BCF (St. Paul Community Study)
1965		347	BCF (St. Paul Community Study)
1966		380	BCF (St. Paul Community Study)
1967		453	St. Paul Community Study
1967		433	Federal Field Comm. - 409 Native; 24 non-Native
1969		435	Federal Field Comm. - 410 Native; 25 non-Native
1970	478	480	Ak. Dept. of Labor (July)
1970		455	AEIDC
1975		540	U.S. Census Bureau
1976		588	U.S. Census Bureau
1979		567	Management & Planning Services - 509 Native; 58 non-Native
1980	551		
1980	580*	567	Dept. Comm./Reg. Affairs
1981	591*	591	Dept. Comm./Reg. Affairs
1982	595*	595	U.S. Census Bureau (July)
1982			Dept. Comm./Reg. Affairs
1983	528*	595	Dept. Comm./Reg. Affairs
1984	491*	595	Dept. Comm./Reg. Affairs
1985	466*	595	Dept. Comm./Reg. Affairs
1985		538	Braund, 1986
1986		595	Dept. Comm./Reg. Affairs
1986		473	Impact Assessment, Inc. - "effective residents"
1987		466	Dept. Comm./Reg. Affairs
1990		488	City of St. Paul
<p>* Alaska Department of Labor estimates of July 1 population derived using U.S. Census methodology. Where these figures are the same as those cited by the Department of Community and Regional Affairs, the Department of Labor accepted local censuses or estimates.</p>			
<p>Source: U.S. Census (1880-1980 figures). Alaska Department of Labor (1980-1985 figures).</p>			

Table 2
Population Trends St. Paul, 1880 - 1985

Year	Population	Percent Change	
		Decennial	Annual
1880	298		
1890	241	-19.1	
1910	201		
1920	212	5.5	
1930	247	16.5	
1939	299	21.1	
1950	359	20.1	
1960	378	5.3	
1970	478	26.5	
1980	551	15.3	
1981	591		7.3
1982	595		0.7
1983	528		-11.3
1984	491		-7.0
1985	466		-5.1

Sources: U.S. Census (1880 - 1980 figures),
Alaska Department of Labor (1981 - 1985 figures).

Table 3
Destination and Reason for Permanent Departures from St. Paul

Destination	Male	Female	Reason for Departure	Male	Female
St. George	8	22	Marriage	0	51
Aleutians and Alaska Peninsula	4	30	Widowed	1	5
Anchorage Area	3	7	Divorced	0	5
Bristol Bay	3	1	Bachelor	1	0
Southeast Alaska	9	19	Accompanying or joining spouse	1	8
California	3	8	Adopted	5	5
Other States	3	5	Military	9	0
Unknown	17	13	Work	13	0
			School	3	0
			Unknown	10	12
Total	56	110	Total	56	110

Source: St. Paul Community Study, 1968.

No current statistical information exists on migration to and from St. Paul, but key informants expressed confidence about certain trends. When the seal harvest was discontinued, many people left the island in search of work. With the building of the harbor and the prospect of other developments, these people are now returning. All 11th and 12th

grade students must attend school outside of St. Paul (and 9th and 10th graders are encouraged to do so). It is estimated that 75% of St. Paul students do graduate from high school, and that most eventually return to the community. A significant part of the St. Paul community resides in Anchorage, where the central office of the village corporation (Tanadgusix [TDX]) and other groups important to St. Paul interests meet regularly. It appears that the population of St. Paul has stabilized and may once again be increasing. St. Paul residents explicitly tie this to the increased economic opportunities on the island, and say that if the local economy should fail to develop as expected that they would expect a significant out-migration to take place.

B. Population Composition

In terms of ethnic composition, the population of St. Paul has been predominantly Aleut (95 percent) ever since the first official census in 1880 (Petroff 1884, KWA 1988a:768). This is unusual for communities such as St. Paul, set up solely for commercial purposes (for the fur seal industry in the case of St. Paul). The more usual case was that non-Natives worked in such "communities" until the resource was depleted or economic factors forced it to be abandoned. One reason why St. Paul was unique in this respect has to do with St. Paul's remoteness and the closed society which evolved as a result (KWA 1988a:768). It is also possible that "... the living, working, and wage conditions prevailing under Russian and federal management were unattractive to outsiders except for short-term employment, perhaps even necessitating the controlled labor market which prevailed during much of the period of federal management" (KWA 1988a:768). After 1970, the number of non-Natives in St. Paul tripled from 22 to 68 persons as a consequence of their increased involvement in community services and fur seal management activities. The federal government turned over management of the community and the seal harvest in the early 1980s, just prior to the termination of the seal harvest altogether, and it is likely that this has resulted in a subsequent decline in the number of non-Native residents.

In 1970, the median age of St. Paul's Native residents was 21.1 years (Table 5), following a steady increase from 17.5 years in 1926 (Table 4). The median age for both Natives and non-Natives has always been higher for males, probably reflecting a greater rate of permanent emigration for female Natives than for male Natives, and a greater propensity for immigration for male non-Native than for female non-Natives. As stated above, most Native males emigrated to find work, but many eventually returned to the community. Many Native women married outside of the local Native community (whether marrying a Native or non-Native, often someone they met while attending high school) and moved from St. Paul permanently. Most non-Natives on St. Paul have historically been and continue to be there because of their employment, and males have always outnumbered females (teachers being about the only job for which female non-Natives were and are imported). In 1980, the median age of St. Paul's Native residents was 22.2 years (Table 6). All years for which there are age and ethnic breakdowns of the population show a higher median age of non-Native residents in St. Paul. This reflects the more transient nature of the non-

Native population. All non-Natives are essentially employed professionals, and at present there are no non-Native school children on St. Paul. Thus, all St. Paul non-Natives are single, mature parents with grown children, or people with very young or no children. This is quite typical of a non-residential population.

The sex distribution of St. Paul residents has always been unequal, with males outnumbering females. This is especially the case among unmarried Natives, where males have been two to five times more numerous than females (KWA 1988a:769). In the case of Natives the reason has to do with selective emigration (see above). The exaggerated discrepancy between Native males and females in the 1980 Census can also be partially explained by the excess of males over females in the 15 years and under age category. Non-Natives who come to St. Paul are typically males in their mid to late twenties, for entry-level jobs, and older professionals for administrative and higher-level positions.

When the population composition of 1970 is compared with that of 1980 (Tables 5 and 6), the character of changes in age and sex ratios between the two U.S. Censuses becomes evident. The overall population increase from 1970 to 1980 was 101, or 22.4 percent. The Native population increased by 55 people, or 12.9 percent, while non-Natives increased from 22 people in 1970 to 68 in 1980 (209 percent, going from 4.9 percent of the total population in 1970 to 12.3 percent in 1980). There was an increase in the number of individuals over age 60, from 22 in 1970 to 37 in 1980 (a 68.2 percent increase). All people over 60 were Natives. Individuals under the age of 15 were roughly equal for the two years -- 176 in 1970 and 180 in 1980 (an increase of only 2.3 percent). The number of Natives in this age group actually declined 2.4 percent, from 170 in 1970 to 166 in 1980, while non-Natives increased by 133 percent from 6 in 1970 to 14 in 1980. From a labor force perspective, individuals of employable ages (i.e., between 15 to 64 years of age) increased in numbers from 240 in 1970 to 352 in 1980 (a 46.7 percent increase), but this increase was not distributed equally. Natives in this age group increased by 20.2 percent (from 248 in 1970 to 298 in 1980) while non-Natives increased by 238 percent (from 16 in 1970 to 54 in 1980). Individuals between the ages of 35-59 went from 119 in 1970 to 118 in 1980 (a 0.8 percent decrease) while those aged 15-34 increased from 133 in 1970 to 207 in 1980 (an increase of 55.6%). The increase among the non-Native portion of the population was again greater than among the Native, but was relatively insignificant for the 35-59 age group. Natives aged 15-34 increased from 126 in 1970 to 175 in 1980 (38.9 percent) while non-Natives increased from 7 in 1970 to 42 in 1980 (600 percent). The ratio of employable age males to females in the population remained fairly constant.

These comparisons can also be expressed in terms of population percentages. In 1970, 4.9 percent of the total population was over the age of 60, compared to 6.7 percent in 1980 (5.1 percent of the 1970 Native population and 7.5 percent of the 1980 Native population). In 1970, 39.1 percent of the population was under 15 years old, compared to 32.7 percent in 1980 (for Natives only, 39.7 percent of the 1970 population and 34.4 percent in 1980). The potential labor force comprised 58.7 percent of the 1970 population, compared to 63.9 percent in 1980. Differentiating by ethnicity, 57.9 percent of the Native population was part

of the potential labor force in 1970, while the same figure for the non-Native population was 72.7 percent. For 1980, 61.7 percent of the Native population was part of the potential labor force, and 79.4 percent of the non-Native population. Thus, the greatest expansion of the labor force appears to have been for non-Natives.

This increase was not spread equally among all age groups in the labor force, but mainly among those aged 20-34. It appears that most of these demographic differences can be traced to the peculiarities of the 1970 St. Paul population distribution. Aside from the expected losses in the older 1970 age cohorts, the 1980 age structure is close to that of 1970, shifted by 10 years aging, with the exception of those aged 20-24 in 1970 (30-34 in 1980). Significant immigration must have occurred for people in this age group of either Natives returning to the island or of working age non-Natives. This second possibility seems to be the case from an examination of Table 6. A similar, but smaller, increase of the 1980 20-24 cohort is evident over the 1970 10-14 age cohort, and this again is one of the "bulges" of the non-Native age distribution. Decreases appear for the 1970 5-9, 35-39, and 40-44 age cohorts (15-19, 45-49, and 50-54 in 1980 respectively), with mortality declines in older cohorts).

Information on St. Paul's population in 1985 and 1986 is also available (Tables 7 and 9), but must be interpreted with caution due to the differing ways in which the information was collected. The Alaska Department of Labor estimated the St. Paul 1985 population as 466, but no detail is available on the age, sex, and ethnicity of the population. Braund & Associates (1986:5-6) give an age and sex breakout for what they term "permanent resident population" for 1985, which totals 538. Impact Assessment, Inc. (1987:155) provides an age and sex breakout for the "effective residents" (essentially resident Natives) of St. Paul for 1986, totaling 471. Given that the non-Native population of St. Paul was 68 in 1980, and that the difference between the two sources for 1985 is 72, it appears likely that the difference is the way in which non-Natives were enumerated. Given the close agreement between the Alaska Department of Labor's 1985 number and the IAI 1986 total, it would appear most prudent to accept them as known quantities for comparison with earlier censuses. They can be compared with the Native populations of 1980 and 1970 (which is the strategy IAI 1987 adopts) whereas the Braund and associates 1986 numbers are not broken out by ethnicity and so confound the very different population dynamics of Natives and non-Natives on St. Paul (see the above discussion comparing the 1970 and 1980 censuses). Thus, we will be comparing the IAI 1986 population data with the 1980 Native population data. The 1986 population discussed in IAI 1987 is for all practical purposes a totally Native population, including only non-Natives married to Native residents or living in Native households for some other reason. The one potential problem noted with the IAI 1986 St. Paul population information is the apparent loss of individuals from the 1980 age 10-14 cohort, which numbered 64 in 1980 compared to only 36 people aged 15-19 in 1986 (KWA 1988:762, see also Table 8). This may be partially explained by the necessity for all 11th and 12th graders to attend school outside of St. Paul, with 9th and 10th graders also being encouraged to do so. Furthermore, not all high school students return to the community immediately after graduation (although it is reported that most do so eventually).

In any event, the comparative statements which follow would only be stronger if this age group had indeed been undercounted in 1986.

The 1986 population information suggests that the Native population of St. Paul is tending to become older. Trends in a small population are difficult to establish, but it is clear that the median age of the Native population has increased (although not evenly) since 1926 (Tables 4, 5, and 6). The proportion of the population under the age of 15 has declined significantly and steadily (with some perturbations) in the same period of time. This decline is most precipitous in the recent period, with the percentage in this age group declining from 39.7 percent in 1970 to 34.4 percent in 1980 to 29.9 percent in 1986. The potential Native work force was 55.1 percent of the 1970 Native population, 61.7 percent in 1980, and 64.3 percent in 1986. The 2.6 percentage point increase was the result of an absolute increase of only 5 people in this age group (from 298 to 303) because of relative loss of people in younger age cohorts. Natives over age 60 were 5.1 percent of the 1970 Native population, 3.9 in 1980, and 5.7 in 1986. The percentage of females in the high fertility ages (between fifteen and thirty-four years of age) increased from 14.5 percent of the population in 1970 to 16.7 percent of the population in 1980, but by 1986 the number of women in this age group had declined 14.8 percent of the population. Marriages to men from outside the community, emigration for employment or educational purposes, and the movement of a few large families over the five year period account for this decline. There was little change in the ratio of males to females between ages 21 and 35 from 1980 to 1986. However, while the sex ratio was stable over this period, the unequal numbers and the tendency of fertile females to emigrate combined to create a local shortage of marriageable Native females (not an uncommon rural Alaskan characteristic). This is likely to continue into the foreseeable future.

To these changes we must also add the cumulative natural increase over the period from 1980 to 1985. As depicted in Table 10, net natural increase of births over deaths in St. Paul (through 1985) was 76 individuals. Thus, net emigration of permanent residents from the community since 1980, based on similar classifications of "effective residents" at both points in time, is about 124 persons ($551 + 76 - 37 - 466 = 124$). This compares to a net emigration of about 11 for the period 1970 through 1980. This supports the conclusion that St. Paul may be entering a period of population volatility, especially given the economic development pressures acting within and upon the community (KWA 1988:771).

Little reliable information is available on marital status for St. Paul. That which is available is presented in Tables 11 and 12.

Table 4
Population Composition
St. Paul, 1920 - 1960

Age Range	1920			1930			1940			1950			1960		
	Male	Female	Total												
0 - 4	10	10	20	20	26	46	23	21	44	20	28	57	34	30	72
5 - 9	22	12	34	32	13	45	27	23	50	30	26	56	20	27	53
10 - 14	18	13	28	8	10	20	17	23	40	22	20	42	31	21	52
15 - 19	11	17	28	21	15	36	27	14	42	22	22	44	38	31	67
20 - 24	11	9	20	12	5	17	0	14	23	16	22	38	23	20	43
25 - 29	3	2	5	10	10	20	25	11	36	30	6	36	20	14	34
30 - 34	5	8	13	11	8	17	8	8	14	10	12	22	18	13	20
35 - 39	9	8	15	4	3	7	0	9	10	21	12	33	18	3	19
40 - 44	8	2	8	3	8	8	11	3	14	8	5	13	10	10	20
45 - 49	4	5	9	9	4	13	3	3	6	0	9	17	20	11	31
50 - 54	0	4	4	2	2	4	3	8	9	0	4	12	10	0	10
55 - 59	4	2	6	3	4	7	6	1	7	2	3	5	6	0	12
60 - 64	2	2	4	0	1	1	1	2	3	0	3	3	8	2	10
Total	105	104	209	137	110	253	171	142	319	211	174	385	282	200	471
Median Age	17.7	17.5	17.5	17.1	15.5	10.4	18.5	10.6	17.7	20.9	18.1	10.3	20.2	18.1	10.4

Source: St. Paul Community Study, 1960.

Age Range	Alaska Native			Non-Native		
	Male	Female	Total	Male	Female	Total
Under 5 years	31	25	56	4	0	4
5 - 14	53	61	114	2	0	2
15 - 24	36	37	73	0	1	1
25 - 34	28	25	53	2	4	6
35 - 44	30	14	44	1	0	1
45 - 54	23	21	44	4	4	8
55 - 64	19	15	34	0	0	0
65 and over	6	4	10	0	0	0
Total	226	202	428	13	9	22
Median Age	23.2	19.2	21.1			

Note: Native is defined as Aleut, Eskimo, Indian, and others, excluding White and Black.

Source: U.S. Census.

Age Range	Total Population		
	Male	Female	Total
Under 5 years	35	25	60
5 - 9	33	37	70
10 - 14	22	24	46
15 - 19	25	22	47
20 - 24	11	16	27
25 - 29	17	12	29
30 - 34	13	17	30
35 - 39	16	8	24
40 - 44	15	6	21
45 - 49	12	12	24
50 - 54	15	13	28
55 - 59	12	10	22
60 - 64	7	5	12
65 and over	6	4	10
Total	239	211	450
Median Age	22.3	19.5	20.5

Note: Native is defined as Aleut, Eskimo, Indian, and others, excluding White and Black.

Source: U.S. Census.

Age Range	Alaska Native			Non-Native			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 4	33	22	55	2	6	8	35	28	63
5 - 9	26	21	47	3	2	5	29	23	52
10 - 14	37	27	64	0	1	1	37	28	65
15 - 19	30	29	59	6	0	6	36	29	65
20 - 24	18	21	39	11	2	13	29	23	52
25 - 29	20	18	38	3	4	7	23	22	45
30 - 34	26	13	39	9	7	16	25	20	55
35 - 39	14	10	24	4	1	5	18	11	29
40 - 44	13	13	26	3	0	3	16	13	29
45 - 49	11	8	19	0	1	1	11	9	20
50 - 54	10	3	13	1	0	1	11	3	14
55 - 59	15	9	24	0	1	1	15	10	25
60 - 64	9	8	17	1	0	1	10	8	18
65 - 69	8	7	15	0	0	0	8	7	15
70 - 74	2	2	4	0	0	0	2	2	4
75 and over	0	0	0	0	0	0	0	0	0
Total	272	211	483	43	25	68	315	236	551
Median Age	22.9	21.7	22.2	24.9	27.5	26.8	23.0	21.4	22.2

Source: U.S. Census

Age Range	Male	Female	Total
Under 5 years	31	29	60
5 - 9	35	25	60
10 - 14	23	23	46
15 - 19	33	26	59
20 - 24	34	25	59
25 - 29	23	23	46
30 - 34	23	17	40
35 - 39	24	20	44
40 - 44	16	9	25
45 - 49	9	14	23
50 - 54	11	8	19
55 - 59	15	3	18
60 - 64	7	8	15
65 and over	10	14	24
Total	294	244	538
Median Age	23.9	23.9	23.8

Source: City of St. Paul household census (per Braund, 1986).

Table 8
Change in Alaska Native Population Composition
St. Paul, 1980 - 1985

Age Range	Male			Female		
	1980	1986	Change 1980-86	1980	1986	Change 1980-86
Under 5 years	33	29	+29	22	23	+23
5 - 9	26	25	-8	21	21	-1
10 - 14	37	22	-4	27	21	0
15 - 19	30	23	-14	29	13	-14
20 - 24	18	27	-3	21	23	-6
25 - 29	20	24	+6	18	20	-1
30 - 34	26	23	+3	13	14	-4
35 - 39	14	24	-2	10	18	+5
40 - 44	13	11	-3	13	13	+3
45 - 49	11	13	0	8	13	0
50 - 54	10	9	-2	3	10	+2
55 - 59	15	9	-1	9	4	+1
60 - 64	9	8	-7	8	4	-5
65 - 69	8	8	-1	7	8	0
70 - 74	2	3	-5	2	5	-2
75 and over	0	2	0	0	1	-1
Total	272	260	-12	211	211	0

Sources: 1980 U.S. Census.
 Impact Assessment, Inc. 1987.

Age Range	Male	Female	Total
Under 5 years	29	23	52
5 - 9	25	21	46
10 - 14	22	21	43
15 - 19	23	13	36
20 - 24	27	23	50
25 - 29	24	20	44
30 - 34	23	14	37
35 - 39	24	18	42
40 - 44	11	13	24
45 - 49	13	13	26
50 - 54	9	10	19
55 - 59	9	4	13
60 - 64	8	4	12
65 and over	13	14	27
Total	260	211	471
Median Age	25.9	26.3	26.0

Source: Impact Assessment, Inc. 1987.

Period Population Change	1970-1980	1980-1985
A. Period Starting Population	478	551
B. Births over Period	124	76
C. Deaths over Period	40	37
D. Net natural Population Change over Period (B minus C)	+84	+39
E. Expected Period Ending Population (A plus D)	562	590
F. Actual Period Ending Population	551	466
G. Net Migration over Period (E minus F)	-11	-124
H. Ratio Net Migration to Starting Population (G divided by A)	-2.3%	-22.5%

Sources: U.S. Department of Commerce, Bureau of the Census, Special Tabulations, 1970 and 1980. Alaska Department of Health and Social Services, Vital Statistics, 1970-1985.

Table 11 Marital Status by Sex Persons 15 Years and Older St. Paul, 1926 - 1966				
Year	Marital Status			
	Married	Widowed	Single	Total
1926				
Male	33	7	6	46
Female	31	12	2	45
Total	64	19	8	91
1936				
Male	38	3	13	54
Female	34	10	1	45
Total	72	13	14	99
1946				
Male	46	8	22	76
Female	45	10	6	61
Total	91	18	28	137
1956				
Male	58	8	42	108
Female	54	12	13	79
Total	112	20	55	187
1966				
Male	74	12	49	135
Female	72	10	10	92
Total	146	22	59	226

Source: St. Paul Community Study.

Table 12 Marital Status by Sex Persons 15 Years and Older St. Paul, 1980		
Marital Status	Male	Female
Single	89	45
Married	100	90
Separated	4	3
Widowed	11	13
Divorced	10	6
Total	214	157

Source: 1980 Census.

B. Household Size and Composition

The most recent information on household size and composition for St. Paul indicates that, as in other predominately Native communities, ". . . household composition is subject to rapid change at frequent intervals," although this was modified somewhat in St. Paul by the relatively long period of time that the typical head of household had resided in St. Paul 41.5 years -- LAI 1988:167). Nonetheless, the statement is still generally accurate. At the time of the 1985 city of St. Paul household census, the general trends in household characteristics consisted of a decrease in household size, accompanied by an increase in the number of households at a rate greater than that of the population as a whole. For the period 1970-1980, they note that the number of households increased at twice the rate of the population (LAI 1988:168-9). Preliminary results of the 1990 census continue these trends (see Table 13).

The average age of household heads in 1985 was 46.2, with a range of 58 (19 to 77). Nineteen of the 123 households (15.4 percent) were headed by females. The standard deviation was about 15, hence about two thirds of the household heads spanned the 31 to 61 age. They noted that the relative lack of young household heads, given the rate of formation of new households, was somewhat surprising. It was suggested that younger people were postponing forming their own households because of economic conditions, such as the lack of housing availability and income opportunities, and demographic features, such as unequal sex ratios (LAI 1988:168).

The issue of such household dynamics was examined by comparing some limited 1986-87 household data with 1985 and earlier years. Because no complete survey was done in 1987, there is no direct comparability, but certain trends were indicated. Household composition had altered substantially during the 1985-1987 interval, confirming observations about internal population change that had occurred in 1985. Based on the sample for which information was gathered, mean household size in 1987 was 3.87 persons, a decline of 0.6 persons per household over two years. A new housing subdivision, coupled with an overall population decline due to emigration, are probably the major proximate explanations for this decline. The range of household sizes also decreased markedly, from a maximum size of 14 in 1985 to a maximum size of 8 in 1987. The average age of head of household also decreased significantly, from 46.2 years in 1985 to 42.3 years in 1987. These changes suggest that new households headed by younger adults split off from established households and that a portion of the population left the island. Judging by the characteristics of household size and age distributions, these changes were distributed evenly over the entire population. The secondary aggregate data (available and reviewed through 1985) portray population changes that are consistent with these interpretations. The post-1985 period, for which no secondary data are available, reveals accelerated trends that are apparent in the secondary data for 1980 and 1985: increased emigration, declining household size, increasing number of households, and net population decline (LAI 1988:168-169). In 1990 the range of household sizes increased over that of 1987, but the average size decreased from 3.87 in 1987 to 3.57 in 1990.

Little information is available on household type for St. Paul (and would probably not be directly comparable in any case). Tables 13 and 14 indicate family versus non-family characteristics, and demonstrate the importance in St. Paul of family domestic units. For 1987, it appears that this remained the case. Nuclear households composed 44 percent of total households, followed by single person households, conjugal pair households, and single parent plus child(ren) households (LAI 1988:172).

Year	Households		Families	
	Total	Ave. Family Size	Total	Avg. Family Size
1970	85	5.29	82	5.49
1980	126	4.37	113	4.88
1990	134	3.57		

Year	Population			Households		Families	
	Total	Native	Other	Total	Ave. HH Size	Total	Ave. Family Size
1950-1960	+0.5%						
1960-1970	+1.8%						
1970-1980	+2.0%	+1.39%	+0.7%	+4.0%	-1.9%	+3.3%	-1.2%
1960-1980	+1.9%						
1980-1985	-3.4%						

Type of Household	1970	1980	Rate of Growth
In Family Households	419	505	+1.9
In Non-Family Households	24	22	-0.9
In Group Quarters	7	27	+14.5

Note: figures for 1985 are provisional. Braund, et al., MMS Technical Report 118, 1986, (Household data for 1985).

Sources: U.S. Department of Commerce, Bureau of the Census, Special Tabulations, 1980. Alaska Department of Labor, Alaska Population Overview, 1985 Estimates. April, 1987.

Household Type and Relationship	Number	Percent
In family Household		
Householder	113	20.5%
Spouse	84	15.2
Other Relatives	300	54.4
Non-Relatives	8	1.5
<i>Sub-Total</i>	<i>505</i>	<i>91.7</i>
In Non-Family Household		
Male Householder	11	2.0
Female Householder	2	0.4
Non-Relative	9	1.6
<i>Sub-Total</i>	<i>22</i>	<i>4.0</i>
In Group Quarters		
Inmate of institution	0	0.0
Other	24	4.3
<i>Sub-Total</i>	<i>24</i>	<i>4.3</i>
Total	551	100.0
Source: 1980 Census.		

C. Educational Status

The most recent data on education levels are found in Braund (1986:Table 5-6, page 5-9) and are shown in Tables 15 and 16 below. Although these data are not very complete and somewhat problematic, it is apparent that most, and perhaps all, people over the age of 25 living in St. Paul in 1980 had completed elementary school (more than 50 percent of the total population is below the age of 25 and a substantial portion of them were assumed to be attending school). More than half of these people had a formal education beyond elementary school. Because of a discrepancy between the 1980 population figure of people over the age of 25 and the total number of people enumerated in Braund 1986, exact percentages are not possible to calculate. It appears that at least 36.5 percent of the 1980 resident population of St. Paul over the age of 25 in 1980 had completed high school. It is indicated that as of 1982 only one Aleut had completed four years of college, although the number who had attended some college was not indicated. Present levels of educational attainment are not available in the secondary literature.

Table 15
St. Paul School Enrollment, 1969/70 - 1985/86

School Year	Grades			Total Enrollment
	K - 6	7 - 10	11	
1969/70	94	19	0	113
1970/71	99	15	0	114
1971/72	105	13	0	118
1972/73	110	14	0	124
1973/74	99	34	0	133
1974/75	92	48	0	140
1975/76	96	59	0	155
1976/77	89	61	0	150
1977/78	85	57	1	143
1978/79	80	55	0	135
1979/80	83	46	0	129
1980/81	NA	NA	NA	134
1981/82	NA	NA	NA	144
1982/83	NA	NA	NA	134
1983/84	NA	NA	NA	140
1984/85	71	49	9	129
1985/86	NA	NA	0	127
1986/87	NA	NA	NA	NA
1987/88	82	31	0	114
1988/89	84	29	0	114
1989/90	86	27	0	117
1990/91	81	33	0	114

Source: Braund 1986:5-110 for 1969/70 - 1985-86, unpublished Pribilof School District for 1987/88 - 1990/91.

Table 16
St. Paul School Enrollment, 1987/88 - 1990/91

Grade	Enrollment Year			
	1987/88	1988/89	1989/90	1990/91
3-Year Olds	NA	NA	NA	7
4-Year Olds	NA	NA	NA	16
K	11	13	18	15
1	10	11	10	17
2	14	9	11	9
3	14	13	10	9
4	11	15	13	9
5	12	12	14	10
6	10	11	10	12
7	11	9	10	12
8	7	12	8	12
9	6	4	5	5
10	7	4	4	4
Special Ed.	1	1	4	NA
Correspondence			1	

Source: Unpublished records, Pribilof School District (collected 1990).

Enrollment in the lower grades clearly declined in the early 1970s, while it was increasing for grades 7-10 (most likely through the aging of the younger age cohort). Exact trends are unclear because of missing data in the early 1980s but it appears that enrollment in the younger grades stabilized in the range of 80 students. The present distribution of 3-year olds and 4-year olds indicates that there is some random fluctuation (so that a clear conclusion on recruitment trends cannot be reached). Enrollment in grades 7-10 peaked in 1976/77 and has declined since then, although it has recently stabilized at about 30 students. Total enrollment has declined as reflected in the tables and by the decline in district certified staff from 24 in 1981 to 16 in 1990. Enrollment may once again increase as younger students graduate into the upper classes and if the birth rate remains high, but the trends are not clear. The tables demonstrate that essentially all 11th graders have been leaving the district to attend high school elsewhere since 1969/70, but the more detailed information for 1987/88 - 1990/91 indicates that 9th and 10th graders are increasingly doing so as well. This is confirmed by the district superintendent, who says that students are encouraged to go out for the 9th grade, and are required to do so for 11th grade.

Key informants report that approximately 75 percent of all St. Paul (and 100 percent of St. George) students graduate from high school. Most students eventually return to the islands. Many remain in Anchorage or other places they are exposed to during their school years and only go back to St. Paul in later years. Some display a pattern of alternating residence between St. Paul and other places which is dependent upon job availability, the presence or absence of close kin relations, and other particular characteristics.

III. SOCIOECONOMICS

A. Economic Profile

For the vast majority of this century, the federal government was the primary employer in St. Paul. This dominance lasted from 1910 through the mid-1980s. In 1983 the major employer in St. Paul was NMFS, employing over 60% of the workforce. Following NMFS, the major employers were the City of St. Paul, the Pribilof School District, and the Aleut Community of St. Paul (IAI 1988:144-148). Most of the NMFS positions were directly associated with the harvesting and processing of fur seals, which had been the economic base of the community ever since the Russian fur traders imported Natives to the Pribilofs from Atka and Siberia in the late 18th century. Although the profits from seal harvesting and processing were transferred from the private to the public sector in 1910, this activity was nevertheless the backbone of the St. Paul economy through the phasing out of local NMFS activities (IAI 1987:149).

The post-1983 history of St. Paul presents a significant change in the economy. The catalyst for this change was a transfer of control of many aspects of life in St. Paul from federal control (through direct management and economic support) to local control. The local Native Corporation, the Tanadgusix Corporation (TDX), gained control over the fur seal harvest and processing, although it was by this time far from being a lucrative industry. In fact, although it had been touted as a means to support the community until a more robust local economy based upon area fisheries and a developed port, the commercial harvest of seals was legally terminated in 1985. This had a devastating impact upon the local economy (of both St. Paul and St. George) and, according to local informants, dramatically affected community psychology and heightened the local sense of desperation. The settlement funds supplied by the government to assist in the transition to and development of a new economy did not provide any real means, in the absence of concrete local resources to invest in, to counter these events (see the discussion below).

At that time, four areas were considered to have potential for long-term development as contributors to a sustainable local economy. These areas were fisheries, tourism, fur sealing, and OCS support activities (Dames & Moore 1983). Fur sealing soon proved not to be politically viable, and tourism has remained a relatively small and seasonal economic activity. OCS support activity development was tried, but failed due to the uncertain leasing atmosphere in the area. This leaves fisheries development (support services for all Bering Seas fishing activities as well as of a local fishing fleet) as the development option most likely to succeed. Among the actions taken in St. Paul to pursue the long-term development of the fisheries was the construction of a harbor using funds from the state of Alaska and other sources. The harbor, the development of the fisheries, and other issues, will be discussed after a review of past employment patterns and the expenditure of settlement funds.

This information will be presented primarily in tabular form. Employment, industry, and labor force statistics for 1970 - 1986 are presented in Tables 17 - 22 below. While there are clearly a number of significant points that could be made, the single most important trend for the purposes of our discussion can be examined on Tables 19 and 22. The NMFS went from the dominant community employer in 1980 to one of insignificance in 1986. The city of St. Paul, and to a lesser extent the Tanadgusix Corporation, went from being small employers in 1980 to the largest employers in 1986. As Table 22 indicates, total employment opportunities in the community probably remained about the same (1985 figures clearly include non-Natives, whereas the other years do not). As of 1986, the number of individuals employed by the city, IRA Council, and TDX construction was enough to bring St. Paul to its peak employment level since the removal of the NMFS (Braund 1986:5-24, 5-25).

This transitional period in St. Paul's economy is well documented (IAI 1987:186-213, IAI 1988:179-246). While it was a time when there was a very large increase of funds into the community, this description and analysis makes clear that this funding was transitory and the employment effects were quite impermanent. The settlement funds and the "Corned-beef" funds were used to create employment for those people left without jobs when the NMFS withdrew from the community. While there were other projects in progress (harbor construction, the Pribilof Offshore Support Services (POSS) plant, and so on) people had options and a great deal of flexibility. This is reported to be one reason why the employment statistics from this period are potentially misleading, as people could be counted as employed several times. In any event, this detailed analysis will not be repeated here. What is most important is that the settlement funds, administered mainly by the city, were used to create jobs in an attempt to keep the local economy running. At the time these reports were written it was noted that this was a potential problem, since the funds were finite and the jobs funded were not self-sustaining (IAI 1987:207). The funds have since been depleted, with no long-term beneficial or development results, and this is one source of friction in the community (1990 fieldnotes). One group, perhaps identified more with TDX than any other institution, believes that these funds should have been directed in a more focused way to develop some basis for a local self-sustaining economy. Instead, they were used to support the governmental (mostly city) work force during an interim period and produced no tangible long-term benefits. The city has recently had to layoff a significant number of employees and has reduced its standard work week. To their credit, few people publicly debate this issue at present, since the funds are now all spent, but this history does affect the discussion of the direction that future development efforts should go.

Table 17 Selected Labor Force Data St. Paul, 1980					
Labor Force Status, Persons Over 16 Years, 1980					
Labor Force Status	Alaska Natives		All Races		
	Male	Female	Male	Female	Total
Armed Forces	0	0	54	0	54
Civilian Employed	70	27	78	35	113
Civilian Unemployed	3	3	3	3	6
Not in Labor Force	143	109	143	114	257
Labor Force Participation Rate	33.0%	21.0%	36.0%	25.0%	31.0%
Unemployment Rate:					
1980	4.1%	10.0%	3.7%	7.9%	5.0%
1970	*	*	39.4%	37.5%	39.2%

Employment By Industry, 1970 and 1980		
Labor Force Status	1970	1980
Construction	0	3
Manufacturing	0	0
Transportation	0	0
Communications	0	0
Trade	5	1
Finance, Insurance & Real Estate	0	6
Services	9	27
Public Administration	62	74
Other	0	2
Total	76	113
Source: U.S. Census, 1980.		

Table 18
Average Annual Full-Time Employment
St. Paul, 1980

Industry Classification	Number	% of Total	% Basic	Basic No.	Secondary No.
Agriculture, Forestry and Fishing	1.0	0.8	50	0.5	0.5
Mining	0.0	0.0	---	0.0	0.0
Contract Construction	0.0	0.0	---	0.0	0.0
Manufacturing	1.0	0.8	100	1.0	0.0
Trans., Communications & Public Utilities	1.5	1.2	0	0.0	1.5
Trade	18.5	15.1	22	4.0	14.5
Finance, Insurance & Real Estate	5.0	4.1	100	5.0	0.0
Services	3.5	2.9	43	1.5	2.0
Government	92.0	75.1	61	56.0	36.0
Federal	(60.5)	(49.4)	(93)	(56.0)	(4.5)
State	(1.0)	(0.8)	(0)	(0.0)	(1.0)
Local	(30.5)	(24.9)	(0)	(0.0)	(30.5)
Total	122.5	100.0	56	68.0	5.5

Source: Alaska Consultants, Inc., May 1981.

Table 19
Covered Industry Employment
Pribilof Islands Area, 1980 - 1986**

Industry Classification	1980	1981	1982	1983	1984	1985	1986
Mining	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0
Manufacturing	*	0	0	*	*	*	*
Trans., Communications & Public Utilities	0	0	0	0	*	*	0
Trade	*	*	*	*	*	*	*
Finance, Insurance and Real Estate	*	*	*	*	*	*	*
Services	69	62 ^a	*	*	*	*	*
Government	156	157	179	181	192	160	165
Federal	(122)	(120)	(118)	(113)	(77)	(24)	(23)
State	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Local	(34)	(37)	(61)	(68)	(115)	(136)	(142)
Miscellaneous	*	*	*	0	0	0	0
Total	231	304	291	311	380	315	313

* Figures withheld to comply with disclosure regulations.
 ** Pribilof Islands area includes both St. Paul and St. George.
^a Prorated from six months of data.

Source: Alaska Department of Labor.

Table 20
St. Paul Native Employment, 1980

Employer	Number Employed		Average Number of Weeks Per Part-time Worker	Total Weeks Per Year Part-time Workers	Total Number Employed	% of Total Employment
	Full-time ^a	Part-time				
NMFS	17	22 ^b 96 ^c	28 8	616 768	135	55.3
Clinic	2	2	40	80	4	1.6
School	13				13	6.3
City	7	3	25	75	10	4.1
TDX Corporation	6				6	2.5
Seal By-Products		6	4	24	6	2.5
Seal Fur Processing		14	6	84	14	5.7
Reindeer Antler Processing	15	3	45	15	6.1	
Hotel		4	12	48	4	1.6
Restaurant		15	12	180	15	6.1
Store	10				10	4.1
Tavern	3				3	1.2
Gas Station	1				1	0.4
Reeve/PO	1	1	12	12	2	0.8
Alaska Tours & Marketing		2	12	24	2	0.8
Coast Guard	2				2	0.8
Weather Service	2				2	0.8
Total	64	180	NA	1,956	244	99.7

^a Includes near full-time workers such as school personnel hired for 9 or 10 months of the year.

^b "Part-time indefinites" who worked more than 6 months of the year.

^c Includes "temporaries" and "part-time indefinites" who worked less than 6 months of the year.

Source: Institute for Social and Economic Research (ISER), undated.

**Table 21
St. Paul Employment, 1982**

Employer	Full-Time	Part-Time
NMFS	15	158
Public Health Service	1	2
School District	12 (12)	6
Store and Tavern	9	6
Community Council	1	0
City	8	3
Village Public Safety	2	2
U.S. Postal Service	1	1
Aleutian/Pribilof Island Assoc.	0	2
Reeve Aleutian Airways	0	2
TDX Corporation Management	5	0
King Eider Hotel	0	7
Restaurant	0	16
Seal By-Products	0	7
Small Boat Fishery	0	6
Fish Processing Plant	0	4
U.S. Coast Guard	2 (1)	0
U.S. Weather Service	3 (2)	0
The Shelter	2	4
Summer Youth Program	0	10
Total	61	226
<p>Note: Numbers in parentheses indicate non-Native employment.</p>		
<p>Source: Smythe, 1983, cited in Dames and Moore, 1983.</p>		

Table 22
St. Paul Employment, 1900 - 1990

Employer	1900 ^a Total Empl.	1900 ^b F.T.E. Empl.	1982 ^c Total Empl.	1985 ^d Total Empl.	1985 ^d F.T.E. Empl.	1990 ^e Total Empl.	1990 ^e F.T.E. Empl.
National Marine Fisheries Service	135	91.0	173	3	1.0	3	2.0
U.S. Post Office	2	1.5	4	2	2.0	2	2.0
National Oceanic & Atmospheric Admin.	2	2.0	3	3	1.0	3	1.0
Federal District Court	NA	NA	NA	1	0.5	1	0.5
Fish and Wildlife Service	NA	NA	NA	3	1.0	3	0.5
Federal Aviation Administration	NA	NA	NA	3	3.0	3	0.5
Coast Guard	2	2.0	2	2	2.0	2	2.0
City of St. Paul	10	0.5	11	72	72.0	75	58
IFA Community Council	NA	NA	1	8	8.0	4	4.0
Gas Station	1	1.0	1	1	1.0	1	1.0
Store and Tavern	13	13.0	15	15	15.0	15	15.0
Seal Harvest	NA	NA	NA	30	4.0	0	0
Tanadgusx Corporation	6	6.0	5	20	20.0	12	12.0
Hotel	4	1.0	7	7	2.5	7	2.0
Seal Processing	20	2.0	7	20	4.0	0	0
Antler Processing	15	1.0	NA	NA	NA	NA	NA
Restaurant	NA	NA	NA	9	3.5	10	3.0
Auto Shop	NA	NA	NA	3	2.0	2	1.5
Catering	0	0	0	7	7.0	5	4.0
Aloutian/Pribilof Islands Assoc.	NA	NA	2	1	1.0	1	1.0
Clinic	4	3.5	3	6	6.0	6	5.0
Public Safety	NA	NA	4	4	3.5	4	2.0
Pribilof School District	13	13.0	18	32	31.0	22	15.0
Tourism	NA	NA	2	2	1.0	NA	NA
Airline	NA	NA	2	5	4.5	6	4.0
Restaurants	15	3.5	16	7	3.0	6	2.5
OCS	NA	NA	NA	25	19.0	NA	NA
Construction	NA	NA	NA	50	19.0	24	10.0
Other	NA	NA	21	5	2.0	NA	NA
Total	242	140.0	207	348	240.5	217	140.5

^a ISER, undated.
^b Computation of F.T.E. (full-time equivalent) from ISER undated and Dames and Moore, 1983.
^c Smytho (1983), as cited in Braund, 1986.
^d Braund, 1986.
^e Impact Assessment, Inc., 1987.

B. Infrastructure

Infrastructure and related services in St. Paul had been the responsibility of the U.S. Bureau of Commercial Fisheries (USBCF) and the National Marine Fisheries Service (NMFS) between 1910 and 1983. The USBCF and NMFS provided home heating oil and electricity at subsidized rates, handled freight delivery to the islands, supplied other municipal services, and constructed housing (IAI 1987:166). Prior to transfer of the administration of these services to the city in 1983, the federal government was supposed to upgrade most community facilities (Impact Assessment 1988:145, Braund & Associates 1986:5-112). A separate fund was allocated for this improvement of NMFS facilities. According to local informants, and Braund and Associates notwithstanding (1986:5-112), St. Paul was and is not well served by its infrastructure. At the time of the transfer from NMFS to local control they maintain that water, sewage, solid waste, and power services were at best barely adequate for the community as then constituted. Even if the funds had been used in the most efficient way possible, they would have been inadequate to fix everything that needed to be fixed (\$20-30 million needed, \$1-4 million provided).

Many community buildings are somewhat dilapidated and in need of repair. Repairs have been made, and continue to be made, on the basis of probable economic return. The old seal processing building has been converted into a fish processing facility. TDX is modifying an old building into a dormitory. Basic services may pose some problems in the future. There are some local concerns about maintaining the water table, although there is no documentation that it is presently in danger and most people point to the lack of water storage capacity as the real bottleneck for potential fish processing development. It seems apparent that the present leach fields used for sewage and the landfills being used for solid waste are also potential problems. The construction of a sewage ocean outflow is a necessity for any extensive fish processing development, and is a community need in any event. Power generation will need to be up-graded fairly soon and most fish processors will be expected to provide at least backup power for their own use in case of emergencies. There are at least two proposals for tank farms to increase the storage capacity for fuel oil and petroleum products.

The airport is considered adequate for most potential development scenarios for the community, and is used by the current fishing fleet for emergency medical care as well as many less life-threatening but convenient purposes (crew changes, supplies, mail). The airport was one of the reasons the POSS facility was conceived and sited as it was. In turn, the POSS facility was one reason the airport facilities were upgraded. The POSS facility was constructed in 1984/85 at a cost of about ten million dollars by a consortium of oil companies, on land owned by TDX. The land was rented by the Aleut Corporation, which subleased the land to the oil consortium. The facility was only operated for about six months, for a variety of possible reasons (no prospects of area lease sales in the near-term, cost of operation, and so on), and the facility reverted to the landlord, the Aleut Corporation. They in turn sold most of the assets or otherwise disposed of them. The end

result was that, after various legal battles, TDX owned the shell of the building out by the airport, which was the beginning of various attempts to develop a large fish processing plant on St. Paul.

Informants say that almost all money available for infrastructure and capital projects has been devoted to the construction of the breakwaters for the harbor. The first phase of harbor construction began in 1984 with the construction of an 800-foot rubble mound breakwater at Village Cove. The original plan called for four phases of construction, with extensive breakwaters and docks. However, storm waves in late November and early December of that year destroyed all the work that had been done to that point. The project was redesigned (and thus delayed) and it was not until September of 1986 that phase II was completed (IAI 1987:178). Although the harbor was then usable, it was not formally opened until August 3, 1990, when additional breakwaters had been completed. There is inadequate dock space, in the sense that more would be useful and was part of the plans. More berthing space was also part of the original plans. Both of these deficiencies are attributed to lack of funds and cost overruns. Combined with this are the problems associated with the construction of the harbor taking six years rather than two. The time delay hampered other developmental efforts, particularly the efficient operation of processing plants, and drained money away from other necessary local projects (construction of an outfall, power generation, and so on).

The city of St. Paul operates the harbor and intends to build new docks and other facilities with the profits from the harbor operation. Their negotiations with various fish processors also include plans for the harbor, and facilities to be added. TDX is also interested in building private dock facilities to make use of the harbor and now appears to be in a position to do so after a multi-year legal dispute over what local institution had title to the land most suitable for such development. They are also negotiating with various parties about future development options.

C. The Fishery

Local St. Paul fishermen participate primarily in the halibut fishery. There may be other fisheries that could be developed and that local fishermen are very much interested in, but a lack of capital for investment combined with limited local support services restricts local fishermen to the halibut fishery. All local boats are under fifty feet. There are still no local facilities to store larger boats year-round. Still, there is major interest in the development of longline and pot fisheries on all locally available species. Such species would include sea urchin, hair crab, Pacific cod, other species of crab, and other high-value species. Halibut is the species which is accessible to the harvesting equipment locally available and which has a developed market, however. The hair crab fishery had been developed and then overfished (by outside boats) in the St. Paul area, so that locals are somewhat leery of attempting to develop such fisheries again. Local boats are not large enough to harvest the lower-valued (but much more abundant) groundfish resource (Braund 1986:5-23). Local

interest in the groundfish fishery is in the eventual growth of the local fleet into boats large enough to harvest this resource but small enough to be serviced by the harbor (local informants say this is a 60 to 80 foot boat) and in the provision of services to the fleet of larger vessels fishing the Bering Sea. These interests are intertwined, as all depend on the development of the harbor, which in turn is dependent in the final analysis at least to some extent on local fish processing. They will all be discussed below.

1. History of the St. Paul Halibut Fishery

Residents of St. Paul have been involved in the commercial halibut fishery since 1981 when TDX began a pilot project to evaluate the potential for local people to adopt commercial fishing technology and techniques (some summary statistics are provided in Tables 23 and 24). A consultant was hired to prepare and train the community for local longline fishing. TDX purchased two 24 foot boats. These boats landed 18,000 pounds of halibut in 1982. The 1983 catch was only 4,000 pounds of halibut since a great deal of time that year was spent in a training course offered by the University of Alaska Cooperative Extension Service. In 1984 the IRA council used a portion of its settlement money (the "corned beef money") to make loans available to local fishermen, who used them to buy boats to enter the local halibut fishery. Seven new boats were acquired -- two 32-foot, two 26-foot, and three 24-foot boats. The larger boats had radar and drum powered hydraulic gear, while the smaller boats had hydraulic gear run off the outboard motor. The 1984 catch was 148,000 pounds of halibut. In 1985, the local St. Paul fleet took 143,000 pounds of halibut (Braund 1986:5-22 through 5-23). Currently (1990), the local St. Paul fishing fleet consists of 26 boats, 18 of which are 17-foot skiffs. Informants say that last year local boats landed about 150,000 pounds of halibut out of an allocation in their management area of 500,000 pounds because of competition from "outside" boats. This issue will be discussed below when describing the development alternatives which informants see as possible and desirable.

TDX operated the local fish processing facilities until selling it to the IRA Council in 1984. The IRA ran it until 1988, after which the facilities were upgraded and leased to an outside fish processor. This later development will be discussed below, but the TDX (and later IRA) operation was very simple in nature. Only halibut were processed. The halibut were gutted at sea by the fishing crew. Onshore, they were weighed, scraped, headed, and put into iced totes. They were then shipped to Anchorage for sale with no further processing. This operation first made a profit in 1988 (Braund 1986:5-23, 5-27; PBS Personal Communication 1991). After 1988, informants state that they felt confident they could have maintained the profitability of such a business, but when the PIP plant opened in 1989 they considered it an investment in the community to sell the fish to PIP and have them processed locally. This successful experience with the learning curve gives St. Paul fishermen confidence that they can similarly be competitive in other local fisheries, if the resources to participate are put within their grasp (primarily larger boats and the local means to service and store them).

Year	Vessels (Number)			Permits (Number)			Catch (Pounds)			Value (Dollars)		
	J	LL	HT	J	LL	HT	J	LL	HT	J	LL	HT
1981	9	2	-	16	5	-	8,165	NA	-	7,551	NA	-
1982	-	-	-	-	-	-	-	-	-	-	-	-
1983	22	9	1	30	13	1	38,220	19,914	NA	26,818	20,208	NA
1984	11	9	3	14	16	1	9,018	132,353	NA	7,661	92,637	NA
1985	6	10	-	6	14	-	6,213	137,137	-	4,349	95,996	-
Average Total, 1983 - 1985							17,817	96,468	-	12,943	69,614	-
Average per Permit Fished, 1983 - 1985							1,069	6,730	-	777	4,857	-

Notes: J = Jigs, LL = Long Line, HT = Hand Troll

Source: North Pacific Fisheries Management Council, Special Report for Minerals Management Service, 1987.

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, hand troll	1	1	NA	NA
Halibut, longline vessel <5 tons	6	6	>73,369	>\$108,073
Halibut, power jig	4	4	>3,107	>\$4,577
City Totals	11	11	NA	NA

^aCity totals not available for 1986.

^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.

Source: ADF&G, Commercial Fisheries Entry Commission 1989.

Species and Gear Type, 1987	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, hand troll	1	1	NA	NA
Halibut, longline vessel <5 tons	4	4	>91,083	>\$109,300
Halibut, power jig	3	3	NA	NA
City Totals	8	8^c	98,716^c	\$118,459^f

^aTotal pounds caught 98,716, of which 91,083 (92.3%) is specifically accounted for. Total earnings of \$118,459 of which \$109,300 (92.3%) is specifically accounted for.

^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.

^cThe city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.

Source: ADF&G, Commercial Fisheries Entry Commission 1989.

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, hand troll	4	4	6,757	NA
Halibut, longline vessel <5 tons	7	7	325,733	NA
Halibut, power jig	2	2	NA	NA
City Totals	13	13	NA	NA

^aTotal pounds caught not given -- partial totals add up to 332,490 pounds. No estimated earnings information provided.

^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.

Source: State of Alaska Department of Fish and Game Commercial Fisheries Entry Commission records for 1986 - 1988.

2. Current (and Potential/Developing) Fish Processing in St. Paul

Pribilof Island Processors (PIP) is currently the only fish processor capable of operating in St. Paul. PIP handles primarily crab, halibut, and cod. This plant appears to have processed for three seasons (counting 1990), but the operation has been subject to management woes and cash flow problems which create some confusion about its past history. It occupies the physical facilities of the old TDX/IRA fur seal processing line, and is the successor to the TDX/IRA halibut operations of 1982-1988. Many residents of St. Paul think that either TDX or the IRA is a partner in the operation, when in fact there is only a landlord/tenant relationship. PIP is an American firm, with a variety of investors (among them some

Japanese). PIP is currently in Chapter 11 bankruptcy and is undergoing yet another reorganization. Local informants are optimistic that the plant will operate profitably eventually and indeed see this as an absolute necessity for the economic health of St. Paul.

At the time of our field visit (October 1990) PIP was gearing up for the crab season. The plant manager said that the plant could process 100,000 pounds of crab into 60,000 pounds of finished product in a 12 hour period (or 200,000 pounds in 24 hours). The plant has a cold storage capacity of more than 780,000 pounds. Last year the plant processed 6,000,000 pounds of cod in three months. The cod season was closed in the Bering Sea at the time of the field visit but the manager said that when that fishery is open the plant will process them. The normal schedule of the plant is to process crab, and then to switch to halibut and cod.

Last year PIP took delivery from 18 or 19 different crab boats, and dealt with a total of about 24. One of the unresolved problems left from last year was that these boats were paid by check last year and not all had received actual payment as of the time of our field visit. This poor payment record was hindering the negotiations for delivery of crab this year, although the plant manager was convinced that the plant would be able to pay in cash, at .25/pound over the Dutch Harbor price. He thought that this would assure the plant of a supply of crab, and said that so far 10 boats had shown interest, and 6 others were possibilities. The plant should be able to handle two normal-size crab boats in a 24 hour period, according to the manager, so there is a limit on the number of different boats which can deliver to the plant. Since dock space and unloading capacity are also limited and only one boat can unload at a time, it may be possible for the plant to operate at this capacity if things work at top efficiency. Other informants report that this has not been the case in the past, however, so that the plant has not operated at capacity. In fairness to the present management of PIP, it must be noted that they are newly installed and are making every effort to correct the mistakes of past management. One factor which the plant had no control over when it opened was that the harbor breakwaters were incomplete. They had just the existing 200 feet of docks and a big sandbar.

No local boats take crab, since they are too small to carry pots or fish those waters. The plant manager estimates that of the crab boats which deliver to St. Paul, 40 percent are out of Kodiak, 35 percent are out of Seattle, and the rest are out of Dutch Harbor and other ports. The available local labor force is 45 to 60 people. Although the plant manager expressed some reservations about the "work ethic" of the locals (basically a combination of low pay, absentee/late rate, lower productivity), he did say that the plant had a local hire preference and that the local labor force was adequate for the operation of the plant during all but peak operations. At the height of the opilio crab season last year PIP employed 180 people, about 55 of them locals. This is the only time they run double shifts, fly people in, and provide room and board. Last year, starting pay was \$7/hour for a resident and \$5.50/hour for an inexperienced outsider (due to expenses of travel, room, and board). Wages were eventually equalized if the outside employee proved to be an efficient worker. The plant manager is quite proud that some of the skill positions and supervisory positions

are held by locals, although he does bring in non-local foremen to handle the non-locals during opilio season. PIP has basic space to house 242 people in two dormitories, one dorm consists of 20 4-person rooms and a second of 27 6-person rooms.

The non-local labor force is described as typically being Filipino, Mexican, or college students. They tend to be dependable, stable, and want to return. This is, however, a description of last year's imported labor force. The year before, which was the first year that PIP operated the plant, there were significant problems caused by the workers who were brought in. These problems were at least partially due to poor selection and hiring practices by PIP, as drugs and alcohol were consistently linked to this group of people. The first year is seen as an anomaly and a learning experience. Some informants also point out that this was the first experience that any St. Paul resident had of a significant number of strangers being present in the community itself. Many St. Paul residents have experienced being among strangers on the "outside," but never had they had this sense of invasion of privacy. The police chief noted that while calls increased during the time people were brought in to work at the plant, many of the calls were from concerned residents reporting the existence of strangers which reflected a sense of discomfort rather than any actual incident.

There is also a larger fish processing plant under development on St. Paul by a company known as St. Paul Seafood (SPS), a Japanese-financed group. This plant has a rather confusing ownership/management history. The present financial backers may or may not be those who originally put together the idea for the plant. In any event, they are a "second wave" of investors who came in when additional capital was needed. There is now a need for another infusion of capital to build a waste outflow to the ocean. This has been estimated at ten million dollars, after the present investors have already put 28 million dollars into the plant. They are unwilling at present to put in this additional money on their own and have been looking for other investors willing to join them by providing this money. Some informants in St. Paul suggested that TDX may be a possible partner in this regard, but TDX officials were quite clear in their statements that TDX did not have the resources to even think about such an investment.

This plant was initially conceived as a surimi plant, designed to process about 400 round tons of fish into surimi and fish meal, operating 280 to 300 days of the year. Since the construction began on the line two construction seasons ago, the surimi market has softened to the extent that these plans have been redrawn and the plant has been broadened so that it can also produce minced product and fillets from pollock and other species (mainly cod). The excess harvesting capacity that presently exists in the Bering Sea groundfish fishery also affects the economic feasibility of the SPS plant. Even if surimi and other pollock product markets remain strong, it is by no means certain (and in fact rather unlikely) that the SPS plant will be able to process pollock for 280 to 300 days a year. This uncertainty is the principal hinderance to obtaining additional financing for the plant, as potential investors are understandably leery of buying into a factory with an inadequate supply of raw material.

Informants in St. Paul say that SPS has been told in no uncertain terms by potential investor groups that they will not even consider the matter unless there is some form of allocation.

The SPS plant is located inland from the harbor, at the airport. This site was chosen to minimize construction costs, since the POSS facility was there and could be modified at considerable savings over the cost of new construction. This location will also serve to minimize the impact of the imported labor force on the St. Paul community (not only in terms of potential social disruption, but also social and cultural discomfort, competition for housing, strain on services, and so on), while not making social interaction impossible. Proximity to the airport is also convenient in terms of labor supply. The disadvantages to the site have to do with the need to truck fish to the plant and then truck product back to the harbor to be shipped. These are not seen as great logistical problems, although it is recognized that inclement weather may shut down the plant for a few days a year.

The SPS plant will have housing for about 120 imported workers, plus single-family housing for key personnel (the latter still needs to be built and is projected as 6 duplex units). The plant is estimated to need a peak labor force of 150 or so, since it will be highly automated, and to average perhaps 100 employees. The peak operating time will be 6 to 8 months of the year, probably due to fishery closures resulting from overcapitalization in the fisheries. The construction crews working on the plant have been predominately local.

There are very real constraints on the operation of such a plant, if and when it starts operation. The plant has its own water system of about 350,000 gallons capacity. The city could have provided this, but only by straining its capabilities. The plant would need access at will to the dock for most efficient operation, but the City dock will have many different users and it is not likely that other docks will be built as rapidly as the demand rises. A waste out fall must still be built for the plant. The need for an imported labor force is recognized as a potential problem. The SPS plant does have the advantage of being outside of the community.

Neither SPS nor PIP are backed by investors with any previous experience in the seafood business (although both originated as concepts with a person very knowledgeable about the fishery), and some local informants think that may be part of the problem. It may indicate that those with the best judgement in the industry did not consider development in St. Paul a good risk. It may also indicate that a substantial part of the delays and other production problems may be due to management's lack of seafood industry experience. Some informants also have noted that the larger seafood processing firms tend to make demands that St. Paul may not want to grant (such as exclusive use of dock facilities), and that this affects the processors that St. Paul can attract.

With the above in mind, informants note that St. Paul is still very much in the developmental stage in terms of its port and fish processing facilities, so that the types of problems that St. Paul has experienced are not unexpected. Even under the best of circumstances fish processing plants can exhibit instability from one year to another, and the

attempt to establish a new operation anywhere is quite risky. In their view, St. Paul still needs an additional 300 to 400 feet of dock and other facilities before it can be expected to enter a stable stage of fish processing operations. It is only through the continued promising potential for access to resources and participation in local fisheries that they think such development is likely to occur.

3. The Local View of Fish Processing in the Economy of St. Paul

All local informants were of the opinion that any head of St. Paul household who was also the main or only wage earner in that household needed to earn more than \$7/hour, the wage offered by the fish processors. The most recent estimates of the St. Paul household monthly survival budget would require an hourly rate of \$9.59. This is the most conservative estimate possible, as it is a purely survival estimate with no provision for off-island travel, motorized travel on the island, recreation, and other such "amenities" (City of St. Paul 1990). Thus there is understandably little apparent interest among the local population in working in the processing plants. On the other hand, there is an acceptance that for St. Paul to survive as a community the harbor has to function as the economic base, and for this to occur at least two or three fish processors must be operating on St. Paul, pretty much on a year-round basis. This in turn means that a relatively large transient (or not-so-transient) work force from off the island must be accommodated or otherwise put up with. As one prominent informant put it, the last five years have been spent ensuring that the harbor would be built. Now they have to concentrate on developing the commercial possibilities of the harbor and minimizing the social impacts of this development.

The logical question is then what advantages the local Aleut population expects to gain from the harbor (and fish processors). Local informants generally mentioned three sorts of developments that they wanted to pursue. One is basically support services for the fish processors. Such services may be as direct as trucking the fish to the plant and the product back to the harbor. Other services would be less direct, such as restaurants and stores catering to the imported labor force. A second sort of opportunity would be the support services provided to the ships that called at the harbor, for which the fish processors would serve as a sort of magnet. The prime example quite a few informants gave was that fuel sales would provide some jobs for residents, and a profit for the city and/or TDX. The likely volume of such sales varied among informants. Nevertheless, the ships would need a reason to come to St. Paul other than simply to buy fuel. Delivering fish to stable fish processors would provide such a reason. These two support sectors are seen as perhaps the most promising base for a sustainable St. Paul economy (and some informants even talked in terms of economic multipliers). The third sort of economic opportunity mentioned was that local fishermen wanted the opportunity to participate in what they considered the local fishery. Given the chance, they believe that they can evolve from a small-boat halibut fishery into a 60 to 80 foot boat multi-species fishery (halibut, crab, cod, flatfish, mid-water trawl pollock). This is clearly more speculative than the other two, in that it is less obviously tied to an inshore/offshore allocation on pollock, and also depends on harbor

developments and individual investment decisions that the other two sorts of opportunities do not. It is also the economic opportunity with the most appeal to a good number of St. Paul residents, however.

Few, if any, informants think that the economic future of St. Paul is assured. The success of the harbor and its development is far from certain. They see an onshore allocation as one way to increase the chances of this success, however. An allocation of some sort appears to be essential for the SPS plant to attract the additional capital it needs to finish its construction. Such an allocation would lend stability to the current situation of uncertainty. Limited entry is not a viable alternative because St. Paul has no track record of participation in the fishery and so would be shut out. This was stressed continually by informants, who wanted to be sure that their option to develop a St. Paul-based fishing fleet was not precluded by fishery management decisions.

The preferred mechanism of such an allocation is not altogether clear for St. Paul informants taken as a whole. Few, if any, informants are in favor of privatizing such allocations. Such privatization in essence creates monopolies and a limited entry situation. Some informants thought that a simple onshore/offshore allocation, defined in terms of the communities where fish are landed, or zones might work. They base this on the premise of a 50/50 inshore/offshore allocation, with Unalaska and Akutan each taking about 20 percent (due to the facilities they already have in place) and St. Paul developing the necessary capacity to handle the remaining 10 percent. However, if allocations were made to processors on the basis of current use, St. Paul would again lose out since the SPS plant has not yet been put into production and PIP has never processed pollock (and only limited cod). Dutch Harbor and Akutan, on the other hand, have facilities that are fully operational and in fact are expanding. A significant group of informants (PBS/TDX) argued that it would be of no use to St. Paul if a general inshore/offshore decision were made that "... simply divided one derby into two derbies." It is their view that in a competition for an onshore allocation among Unalaska, Akutan, and St. Paul that St. Paul is still too undeveloped to gain access into the fishery and that the other two communities would essentially split any allocation.

Allocations to specific communities may be a workable solution, but there was a split between informants who thought that all coastal communities could argue for such an allocation and those who wanted to confine allocations to those communities with a developed fishery or a real possibility of developing a fishery. In the former case, the allocation would be used as an economic development asset, to use or trade in whatever manner deemed most beneficial. This was considered too broad a use by most informants, who viewed fisheries management tools in terms of fisheries management rather than in more general economic development terms. They also believe that such community specific allocations are strongly resisted by many of the current fishery user groups.

The most common and strongest sentiment among informants was for a specific allocation to the Pribilofs (St. Paul and St. George) under the provisions of the Fur Seal Act.

Informants remarked that St. Paul is neither fish nor fowl in that it is "an offshore community with an onshore need." They stress the lack of other resources available for economic development in the Pribilofs. Most informants also judge that it may be politically easier to obtain a special allocation for St. Paul under the unique jurisdiction of the Fur Seal Act rather than to rely on a more general inshore/offshore allocation mechanism under which the Federal obligations to the Pribilofs are given no consideration. This position also has received support from Congressman Don Young (Young 1990).

Besides the obvious stabilizing effect such an allocation would have on the SPS plant on St. Paul, most informants are also convinced that an inshore allocation would also benefit other local fisheries development. Ideally, St. Paul would receive an allocation for eight to ten percent of the TAC of pollock and cod administered through a fishermen's association (most likely the Central Bering Sea Fishermen's Association). The portion of the allocation St. Paul residents could not harvest themselves they would want to trade for quotas of higher-value species which they could harvest, and/or traded for onshore infrastructure development and fleet development. The benefits they see for the development of a local fishing fleet are fairly clear, and if the allocation is made on a time-limit basis they feel there is little danger of creating a permanent privileged class of fishermen. The conception then approaches a general community development allocation since there is no direction over where this fish would be landed or processed. The effects on the development/maintenance of St. Paul shore plants would be uncertain, but the assumption would be that the allocation would foster the development of highest value to the residents of St. Paul through their choice of how to use this allocation. The present options they list are fish processing facilities, other onshore infrastructure, fleet development, or some mixture of all three.

A complimentary point was not made as stridently, perhaps because it is somewhat more subtle, but most informants stressed that the Bering Sea was currently being overfished. They did not have to examine economic statements or talk about overcapitalization to reach this conclusion. They merely noted that the wildlife populations dependent on fish (and pollock in particular) were all in decline. This has two consequences, one very general and fundamental and the other quite pragmatic. In the big picture, they see the Bering Sea environment in the process of being degraded for short-term economic gains in a manner that it may not be able to recover from. More pragmatically for St. Paul residents as fishermen, this means that given their lack of experience in the fishery and lack of resources, they will never gain access to these resources without an allocation. Most informants do see onshore allocations as one (perhaps the only) way to help insure the development of southwest Alaska while at the same time managing and conserving the Bering Sea resource base in a responsible way. They do not perceive mobile offshore catcher/processors as stewards of the resource, claiming such processors have no long-term stake in any one particular place. In this regard, several informants also expressed the view that the NPFMC (and regulatory agencies in general) had the unfortunate proclivity to try to manage resources as artificial units separate from each other. They would prefer an

approach more oriented to whole ecosystems, with management units made up of logical regional areas and species complexes.

All informants agree that St. Paul residents must gain access to the Bering Sea fisheries if St. Paul is to remain a viable community. They argue some form of onshore allocation is essential for them to gain this access. They view the current derby atmosphere of the fishery as detrimental to the resource, and ensuring that Pribolofians will never be able to enter into the fishery either as harvesters or processors. They feel that the time they need to develop their capabilities is not available within the present short-term time constraints of the fishery.

IV. SOCIOCULTURAL PROFILE

A. Social Organization

Social organization in this report refers to the formally organized political and governing bodies in St. Paul. Local, state, and regional governments as well as local Native, fishing, and social service organizations will be discussed.

1. Government

Political control has been one of the dominant issues affecting the community of St. Paul throughout its history. Historically, the Aleuts of the Pribilof Islands have had little opportunity to exercise any right of self-determination. The communities originated as the result of the forced relocation of Natives of the Aleutian Islands for the commercial harvesting of fur seals in the late 18th century (Veniaminov 1840). During the late 18th and 19th centuries, the islands were administered in succession by the Russian American Company, the Alaska Commercial Company, and the North American Commercial Company. The federal government under the auspices of the Bureau of Fisheries assumed control in 1910 (Jones 1980). Despite the emergence of local political institutions in the 1950s, the federal government continued to dominate the political system of St. Paul until the withdrawal of the National Marine Fisheries Service in 1983. Even with this sudden independence, however, the community continues to have little control over external political institutions and policies affecting their lives (Young 1984:8):

The community of St. Paul had long struggled for self-determination in the face of overwhelming control by NMFS. The achievement of a measure of self-determination with the withdrawal of NMFS engendered certain costs to the community. The community goal had been to attain their independence at their own pace, within the limitations of their expertise and experience. At no point did they anticipate or desire the total withdrawal of NMFS personnel and certainly never favored the elimination of the substantial financial and infrastructure support provided by the federal government in its operation of the fur seal research and processing operation in the island. The islanders consistently argued for the continued financial underwriting of the fur seal harvest and the multitude of costs involved in maintaining the island's infrastructure (e.g., fuel, electricity, water and sewerage). Further, they argued that outside investment would be required for the key developments (the breakwater, harbor and port development, and local fisheries development) if the community was expected to develop a self-sustaining economy. Local residents anticipated that this development would take a significant period of time, during which outside support would be required, and suspected that this period of time would be longer than anticipated by the federal government. This has unfortunately proven to be the case.

Moreover, prior to the withdrawal of NMFS, the stability and predictability of local administration by the federal agency allowed the population to focus on self-government and

self-determination in opposition to federal controls. The gradual increase in self-induced political control, combined with the express intent of the federal government to withdraw, produced mixed feelings at best. Many individuals looked at the pending transition from the security of federal administration to the self-responsibility of self-government with uncertainty.

Since the departure of NMFS, the issue of political control has become even more complex. Local political entities share some common interests in regard to the future development of St. Paul, but they must also compete for a limited set of resources (i.e. the St. Paul Trust, grants, employment opportunities, title to land, etc.). The basis for conflict within the political system lies within the varying sources of political power of these institutions, their overlapping authority and responsibilities, the role of kinship in the formation of political factions, and differences in opinion with regard to the course and speed of economic development.

There are three major local political institutions in St. Paul, each with a different base of power and influence. The city of St. Paul was the primary beneficiary of the St. Paul Trust which was set up by the federal government to ease the transition of administrative responsibilities from federal to local authorities. Much of the twelve million dollars allocated to St. Paul has been used by the City to employ local residents in compensation for the loss of wage-labor jobs associated with the commercial fur seal harvest, making the City the largest employer on the island. With the depletion of the fund, the city has reduced its work force, but remains the largest year-round employer for the present time.

The Tanadgusix Corporation, the local Native corporation established under the terms and conditions of ANCSA, is the major landowner in the community. While not a political institution per se, its ability to influence economic development through control of the available land for such development, and its intensive efforts at lobbying on behalf of its shareholders for policies and programs which promote their interests, makes the TDX Corporation a major participant in the political arena of St. Paul. Not all shareholders live on St. Paul, nor are all Native residents of St. Paul shareholders, but for most purposes the identity between the residents of St. Paul and the shareholders of TDX is assumed to hold.

The local IRA Council established under the terms and conditions of the Indian Reorganization Act of 1934, called the Aleut Community of St. Paul, controlled the "corned beef" money which was the Indian Claims Commission settlement to the Aleut people in compensation for the treatment they received at the hands of the federal government between 1870 and 1946. This fund has been used to promote the development of a local fishing industry and other community development projects during the monitoring period. While this financial base was smaller than that possessed by the other two institutions, the IRA Council is the oldest local political institution on the island and one of the strongest advocates of preserving the integrity of the community in the face of intrusion by the larger Euro-American society.

All three institutions have responsibility and/or authority for a wide range of programs and activities in St. Paul. Many of these responsibilities overlap. For example, the IRA Council and the Tanadgusix Corporation have both been involved in fisheries development, and in 1985 both institutions assumed responsibility for the fur seal harvest of that year. Considerable effort has been devoted during the past few years to establishing clear lines of authority. Occasionally, the delineation of responsibility has engendered competing claims among agencies and the transfer of authority has occurred only after considerable negotiation. A local "leadership council" made up of representatives of all three institutions was formed some time ago, but has recently been reactivated.

Kinship has been another avenue for local division. Particular kin groups have been able to exercise substantial influence over certain local institutions, resulting in the formation of political factions. Although this factionalism is generally not serious, it has implications for several areas of community life. For instance, according to one local informant, jobs are allocated on the basis of kinship, which he says is counterproductive in the long-run and hurts the community as a whole. Because of the extensive nature of existing kinship networks in the community, however, charges of nepotism may be unavoidable.

Kinship is probably less of a factor in political conflict than is divergence of opinions on how best to proceed with economic development. In 1981, Smythe reported a desire to keep control of economic development in the hands of the local Aleut leaders.

Underlying the issue of local control is the desire to provide means of livelihood for island residents, while simultaneously maintaining traditional forms of leadership and decision making. The concern over potential development is not a fear of more business activity or higher output and profits, but in having periods during which large numbers of outsiders come to the islands and alter the local lifestyle. An increase in complexity or seasonal influx of a population of outsiders would bring about new forms of village organization (Smythe 1981:15).

Given that almost all development scenarios involve fish processors operating year-round, with the necessity of importing most if not all of their labor, one of the major concerns of leaders of all three institutions is how to minimize the social impacts of such an imported labor force. In the past, political conflict within the community was sometimes explained in terms of different approaches to development (with TDX and the IRA more apt to exclude outsiders than the city -- IAI 1987:165). With the depletion of the settlement and "corned beef" funds, however, has come an apparent agreement that some compromise with outside development forces is required if a sustainable economy is to be built in time to maintain a viable St. Paul community.

2. Federal and State Institutions

The federal government continues to be a dominant force in the political system of St. Paul. In addition to the impact of federal policies and regulations, the federal presence on St. Paul is felt through revenues and land ownership. The federal government, for instance, has provided funds for harbor development, HUD housing, revenue sharing funds for the city government, health care, and other social services. Lands retained by the federal government include the seal rookeries (1,012 acres) administered by NMFS, and bird cliffs (2,240.59 acres) administered by the United States Fish and Wildlife Service (USFWS) (Braund 1986:5-74). As administrators of the fisheries, the fur seals (and the Fur Seals Act), the Coastal Zone Management Act, and the St. Paul Island Trust, NOAA and NMFS still have a pervasive mantle of control over the community.

The state presence in the political system is primarily limited to revenues. Between FY81 and FY86, St. Paul received a total of \$17,437,000 in state capital construction appropriations for major infrastructure developments such as the harbor/port facility, the airport, and other facilities. This estimate does not include construction projects funded through state agency programs (Braund 1986:5-37). The State also provided or administered funding for social service programs such as unemployment compensation, Aid to Families with Dependent Children (AFDC), food stamps, low income housing and energy assistance, and the village public safety officer (VPSO) program, in addition to municipal assistance and revenue sharing funds for the city of St. Paul, and grants for planning and coastal zone management.

3. Regional Institutions

The two regional institutions which have played significant roles in the local political system during recent times are the Aleut Corporation and the nonprofit Aleutians/Pribilof Islands Association (A/PIA). The presence of the Aleut Corporation has been felt primarily in two areas. First, the Aleut Corporation distributed annual dividends to shareholders living in the community. These dividends ranged from \$100 per shareholder in 1980 to \$115 per shareholder in 1985. The Aleut Corporation also managed the POSS facility and provided construction jobs for some of its shareholders until 1985 when it sold the facility (as mentioned above).

The A/PIA is represented in St. Paul chiefly in the form of providing or administering subsidized programs. After the withdrawal of NMFS, the role of the A/PIA has increased somewhat. It has provided funds for employment training, and administered federal funds for health and social services. A/PIA also provides salaries for two VPSOs (since replaced by a professional police department), a Community Health Representative, an alcohol counselor, and three employees at the St. Paul Clinic: a custodian, nurse's aide, and Community Health Specialist. In 1981 the A/PIA hired a clinical psychologist, based in Unalaska, to provide mental health services throughout the region. During the period of

distress over the withdrawal of NMFS in 1983, this individual was actively involved in providing counseling and referral services to local residents. Also represented on the island is the Aleutian Housing Authority, which works closely with the A/PLA, which has been responsible for building and maintaining the HUD housing which has been constructed in the past few years.

4. Local Institutions

As noted above, there are three local institutions which are actively involved in the political system of St. Paul: the city government, the IRA council, and the local Native corporation. Each of these will be examined in turn.

City of St. Paul

St. Paul was founded as a second class city in 1971. It is governed by a seven-member city council and a city manager. The city levies a three percent sales tax as a source of revenue. However, the bulk of its operating funds during the transitional period have come from the federal government in the form of loans from the St. Paul Trust and a \$1 million grant from NMFS to upgrade utilities and buildings in need of repair (city of St. Paul 1981-86). Recently, the city has tried to impose a fish tax, but this has generated a good deal of local resistance (to the fish tax in particular, but to the idea of a sales tax in general as well). There are two sorts of objections. The first is that such a tax discourages investment in the development of a local economy in general, and in the fishing sector in particular. Those informants espousing this position maintain that one problem in St. Paul is the lack of economic activity which cannot be rectified by imposition of a tax. They think that a fish tax may deter fishermen from landing their fish in St. Paul, and thus hurt TDX and IRA investments as well as the community in general. The second objection is that the tax was imposed by vote of the city council which many in the community feel should be decided by a vote of the public at large rather than by a select few (even if those few are elected). The counter arguments are that all other communities impose a fish tax, so that such a tax would not put St. Paul at a competitive disadvantage (especially if the tax is one percent rather than the maximum three percent). The city also takes the position that this is the modification or extension of a tax already in place, and not the imposition of a new tax.

Whatever is ultimately decided, city finances are at present quite constrained because even though it appears that the main community store is collecting sales tax. Fish tax is not being collected at the local PIP plant. Most at-sea processors have not paid the fish tax in the past in a way traceable to St. Paul, even though the tax is legally payable where the fish is processed, and a substantial amount has been processed within the legal city limits of St. Paul. Very little has been disbursed to St. Paul as the state of Alaska has failed to take those processors operating within St. Paul's legal boundaries into account and instead have

tended to credit it to Unalaska, Akutan, or wherever the product was landed. There are hopes that this situation is in the process of being corrected.

The city attempted to solve the problems associated with the withdrawal of NMFS by hiring more staff than needed in order to provide more jobs in the community. City officials realized that this level of employment could not be maintained for long, since trust funds were rapidly being depleted. Thus, they have been forced, as have the IRA Council and the TDX Corporation, into the position of cutting hours or reducing the number of employees.

The city administration has sustained criticism from different segments of the community for many of its actions. Some residents feel that it has become a target of resentment because it is perceived as filling the shoes of NMFS. Both the IRA Council and the Tanadgusix Corporation opposed the annexation by the city of St. Paul of Otter and Walrus Islands and surrounding offshore areas. The city's decision to stop fuel delivery to customers for failure to pay bills has also been an unpopular one. In late 1985, the city borrowed money from the St. Paul Trust to pay for their fuel supply. As a condition for the loan, the city had to agree to collect for delivery from the community. Some residents, however, have been distressed by this policy and felt that the city was being unfair or did not understand their positions on the matter.

Aleut Community of St. Paul

The Aleut Community of St. Paul (the IRA Council) was chartered in 1951 as a combined IRA council representing both Pribilof Islands. Prior to incorporation of the city of St. Paul in 1971 the IRA Council was the only local political institution in the community. In 1982, the Aleut Community divided to form the Aleut Communities of St. Paul and St. George. The Aleut Community of St. Paul is governed by a seven member board which oversees its funds and programs. The objectives of the IRA are described succinctly by Braund and his associates (1986:5-144). They are:

- To strengthen the tribal government charter, policies, organizational structure, administration, and management.
- To foster economic development for St. Paul by Aleut participation in the economy, Aleut entrepreneur development and employment, and TDX private sector investments.
- 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.

- 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.

The IRA council is responsible for the operation of the community store (now leased to Delta Western on a profit-sharing arrangement), the tavern, the beer hall, and the bingo hall. The IRA council also operates the gas station (open for three hours a day) and handles Johnson-O'Malley (JOM) funds for the local Head Start program and other community and school-related programs. The Council has assumed responsibility for the "corned beef" settlement funds. Twenty percent of the settlement funds received by St. Paul was used to create a "community development fund" which was invested to yield yearly income for community development activities and loan guarantees (Braund 1986:5-145). It has been involved in the development of a local halibut fisheries (although reported losses of \$50,000 in 1989 due to competition from outside boats in the halibut fishery may have depleted these funds). "These functions give the Council control over important aspects of economic life on St. Paul in addition to political influence with off-island entities" (Orbach and Holmes 1983:120).

As with the other local political institutions, the Aleut Community of St. Paul has been concerned with attaining local control over community development and future economic growth. The Council leadership has been particularly concerned with protecting the community from the hazards of uncontrolled development and the unregulated immigration of non-Native "outsiders." Dutch Harbor (Unalaska) is typically cited as an instance of what can go wrong when development is taken out of the hands of long-term residents. To this end, the IRA Council has worked consistently to hire local residents for construction projects.

One of the consequences of the transfer from federal to local control has been that the IRA Council has experienced a crisis of identity. Its tribal government prerogatives have been abrogated, if not in law, by the city of St. Paul with its authority as a second class city and its support from state agencies. As a tribal business entity, its activities often overlap those of the Tanadgusix Corporation. Both TDX and the IRA Council, however, share an identity of interest because almost all tribal members are TDX shareholders. Despite the support that the IRA Council receives from TDX in its development efforts and political role as the local institution which pioneered Aleut self-determination on the island, the duplication of functions by the Native corporation and the municipal government has left the role of the IRA ill-defined.

Tanadgusix Corporation

The local village corporation of St. Paul is the Tanadgusix Corporation. The Corporation is governed by a nine member elected-board and has approximately 450 shareholders. As is the case among other village corporations in rural Alaska, the political influence of the Tanadgusix Corporation is largely based on its economic power in the community.

Although the Tanadgusix Corporation was established to manage the property of the Aleut segment of the community under the terms of the 1971 Alaska Native Claims Settlement Act, its political influence in the community increased substantially in the early 1980s when it began to supplant the role of NMFS as one of the community's primary sources of income and principal employers. The Corporation assumed responsibility for the harvesting and processing of fur seals in 1983 (until the end of the harvest in 1985). The Corporation also provided a number of jobs for community residents and dividends for shareholders in the early 1980s through a series of economic ventures. These included land leases for the POSS facility; a pilot program in commercial halibut fishing and processing; the promotion of tourism and the development of tourist facilities such as the hotel, gift shop, and King Eider restaurant; joint venture construction and catering; management of an investment portfolio which includes land at Chernofski and other properties in the Aleutian Islands and a seventy-five percent interest in the Anchorage International Inn; and upgrading of local housing and other facilities in conjunction with the city of St. Paul. With the exception of the seal harvest activities, all of these operations experienced employment increases between 1980 and 1985, but have not progressed much since 1985. The major efforts of TDX are currently directed towards fostering the development of a local fishing fleet and attempts to attract fish processors to St. Paul, primarily through the development of onshore properties (private harbor facilities, processing operations).

The main conduit for these activities of TDX is a division or subsidy ostensibly devoted to fisheries development, Pribilof Bering Seafoods Ltd (PBS). Presently, the focus of PBS is actually property development. Main goals are the construction of at least 400 feet of private (PBS or TDX) dock and the development of viable fish processing operations in St. Paul. PBS was formed as a separate entity when it was decided to bring in private investors for processing plant development. Should these private efforts ultimately fail, PBS would assume a more direct role as it would then acquire the assets of the unsuccessful ventures. The main projects listed by TDX informants since 1985 are the dredging of the harbor in 1989 (1.8 million dollars they say the government should have paid, but did not), which was part of their pursuit of primary access to the private part of the harbor, as well as the remodeling of a "camp" as accommodations for 70 to 80 workers/transients, the upgrade of the former fur seal plant for fish processing, the demolition of several unsafe buildings, and other port development. Total expenditures totaled at least three to four million dollars. They see 1985 as the turning point for TDX in its commitment to the "improvement of its harbor sharehold" (when current management essentially assumed control).

The Central Bering Sea Fishermen's Association (CBSFA), which represents fishermen from St. Paul and St. George, shares offices and staff with TDX, and receives financial support from TDX. While the CBSFA is not a part of TDX, it works closely with TDX on fisheries related issues. The CBSFA serves as the lead organization representing St. Paul interests on most fishing issues. Officers of the CBSFA have attended NPFMC meetings for ten years and now serve on the advisory panels for that body.

Despite the continuing efforts of the Tanadgusix Corporation to promote economic development in the community, its role has been challenged by a number of factors. Chief among these factors has been the decline in economic activities on St. Paul Island. The efforts of the corporation to develop a fishing and fish processing industry on the island have met with limited success. Most of the construction programs which generated income in the recent past have come to an end. The development of the harbor which was to have provided a considerable source of jobs as well as income for the community was delayed considerably, and the expected development is thus not yet in evidence. Responsibility for the fur seal harvest was handed over to the St. Paul IRA Council after the Tanadgusix Corporation spent over \$70,000 to harvest seals in 1985 which they were unable to sell or even process for commercial sale. The number of employees has declined dramatically.

The political role of the Tanadgusix Corporation is also affected by the conflicting objectives of the Corporation itself. According to the FY85-FY90 Draft Corporate Plan, among its broad goals are the following: (1) ensure that the corporation remains self-sustaining; (2) assist the community in becoming self-sustaining through the development of profitable enterprises which increase job and business opportunities; (3) control and manage corporate assets to ensure their availability to future generations; and (4) protect village lifestyle and promote cultural preservation by participation in major decisions affecting community and development of compatible enterprises (Tanadgusix Corporation 1985). However, while not necessarily contradictory, these objectives appear to have been prioritized in such a way as to place certain limitations on the types of economic development activities conducted by TDX and place it in conflict with the city of St. Paul. For instance, the formulation of informal agreements between local organizations and outside firms to limit traffic and other potentially disruptive influences from outside the community and the investigation of intensive, shore-based developments that would minimize the need for transient residents in St. Paul, place restrictions on the role of outside agencies in community development. As a result, the community has been able to attract only limited outside capital for economic development.

Although the conflicts between the Tanadgusix Corporation and the city of St. Paul on the surface have assumed the character of a dispute between two major cliques of community residents, at its root is a fundamental disagreement over how economic development should proceed, which organization should manage this development, and whether the interests of the community as a city are necessarily isomorphic with the interests of the community as corporation shareholders. The city of St. Paul, for instance, appears to be less reluctant to involve outsiders in local economic development than the Tanadgusix Corporation, even

though both organizations agree that priority for local employment should be given to community residents. For its part, TDX acknowledges that working with outside interests in St. Paul's economic development is both necessary and inevitable. However, as TDX has matured in understanding its private property rights and options, it has become more concerned with which outside sources they shall be involved, rather than whether they shall be involved (Ron Philemonoff, personal communication). With the reactivation of the leadership council and the increased recognition of shared interests as financial resources become more scarce for all institutions, relations and cooperation between these entities may become much easier than they have been in the past.

As the local economy of St. Paul has fluctuated between prosperity and recession, conflicts between existing political entities have been shaped by competition for control over diminishing resources. By acting in the interests of its shareholders, TDX has assumed the role of the loyal opposition in the political process of the community with respect to the course and speed of economic development. Corporation management has traditionally been reticent about turning over property into the public domain. This is not because they are opposed to major infrastructure improvements or unwilling to put necessary land for services and infrastructure development into public lands. Rather, their perception of political control is that a balance is required between public and private Aleut interests. Although such a balance has traditionally been absent in St. Paul, TDX insists that such a balance is necessary for economic development to proceed and local control of the community's destiny to become a reality. They are also wary of the experience of the settlement fund being used by the city to fund what were commonly perceived as "makework" jobs which yielded no long-term benefit to St. Paul's economy. It could even be argued that the existence of such jobs hindered the process of developing a truly self-sustaining local economy.

5. Social Services

Almost all of the existing social service entities serving St. Paul are funded by outside agencies and, in many instances, the provider personnel themselves are based outside the community. The major responsibility for counseling and family services is held by the regional representative of the state Department of Health and Social Services, Division of Family and Youth Services and a clinical psychologist hired by the regional non-profit Native Corporation, Aleutian/Pribilof Islands Association (APIA). The social worker representing the Department of Health and Social Services is based in Unalaska and is responsible for the entire Aleutian Chain as well as the Pribilof Islands. Her primary duties include individual and family counseling and referral, particularly in cases of spouse and child abuse, crisis intervention, and referral. The clinical psychologist is also based in Unalaska and provides counseling and therapy, primarily in that location (IAI 1987:218).

There is a hospital/clinic facility in St. Paul. The clinic is staffed by a physician's assistant, community health aide, and five health assistants who provide a wide range of minor medical services. Emergency medical services in St. Paul are handled by the resident physician's assistant with help from volunteer EMS workers (IAI 1987:219). Outside vessel activity places a major extra burden on the local clinic, both for problems which can be handled locally as well as for assistance with medivacs of emergency cases. There is a constant pressure from the outside fleet for locally available services to be upgraded, which is accompanied by constant attempts on the part of the city to have the outside fleet contribute to accomplish this. Most informants would say that the outside fleet receives more in services than it contributes in financial assistance.

While there has been an increase in the number of applications for federal and state social welfare programs, this is actually an incomplete measure of the community's dependence on public aid. When the NMFS, formerly the primary employer in St. Paul, absolved itself of governmental responsibility, it necessarily put many locals out of work. As compensation, the federal agency gave lifetime retirement benefits to its former employees. This, in effect, subsidized the living expenses of such a large number of residents that fully 20% of the community's total income came from these retirement benefits (IAI 1987:218).

Public safety in St. Paul is now operated as a professional police department, with a chief and three officers. As recently as 1987 the department had only one full-time policeman (with supplemental Village Public Safety Officers (VPSO)). The Alaska state trooper assigned to St. Paul in 1983 was removed three years later because of state budget cut-backs. The present chief of police came to St. Paul 1.5 years ago (and was about to leave) but reported that a VPSO position had been open for his entire tenure on St. Paul. He reported that the conflicts of the VPSO role in a community such as St. Paul make it difficult to keep such a position filled. The jail and police office have recently been upgraded (due to the private initiative of the officers). Good police statistics exist only for the last three years, but are not comparable for those three years, as differences reflect the way that records were kept and problems handled rather than any difference in the type or number of situations encountered.

There is a strong association between the health and social well-being of residents of St. Paul and the political and governmental environment. An increase in rates of crime, mortality, alcohol-related illnesses, depression, and individuals on public assistance occurred in the year immediately following the changeover from NMFS to local control of the community's political and economic systems. However, with the introduction of new employment from construction of the harbor and commercial port facilities, the health and social well-being indices improved somewhat (IAI 1987:215-6). The current status of St. Paul health and social well-being is in question because of the present uncertain economic conditions. Alcohol abuse continues to be a problem, but apparently not more so than in the past. Problems (or the lack of them) associated with the influx of strangers working at the fish processor plants or off of boats in the harbor are discussed below.

B. Sociocultural Values

1. Kinship and Informal Associations

Despite economic uncertainty and political conflict, the social organization of St. Paul has remained largely intact. This organization is held together by two key components: kinship and ethnic identity. Traditional kinship bonds in St. Paul have remained strong as evidenced by household structure and residence patterns and the preponderance of exchange networks. Such exchange networks extend beyond St. Paul and reaffirm links with friends and relatives in other communities. Most of these links involve residents of St. George Island. Braund and Associates (1986:5-114) reported that these links are the result of several years of joint participation in the fur seal harvest and efforts by the federal government in the 1960s to relocate key St. George families and leaders in the belief that one Pribilof community would be easier and more efficient to administer than two. St. Paul residents also have a large number of relatives living in Anchorage and the lower-48 states. In a survey conducted in 1983 by Beverly Holmes (personal communication), the community of St. Paul had at least 113 relatives and family members living in Anchorage and the lower-48 states compared with seven or eight in the Aleutians-Alaska Peninsula area.

Households in St. Paul have traditionally been nuclear or extended in form. Extended households consist of spouses and their unmarried children and any other relative or relatives. Often, extended households in St. Paul have included a married couple, one or more children and their spouses and children. Older relatives who are widowed and unable to care for themselves have also been an important part of extended households on the islands. Extended households were maintained by cultural values towards nurturance of children and respect of elders; by economic necessity (of pooling cash resources); and by a shortage of available housing. Nevertheless, as housing became more available and economic circumstances improved in the 1960s and 1970s, nuclear households consisting of spouses and unmarried children became more prominent.

The contemporary St. Paul household is considerably different today than it was in "traditional" (i.e. pre-World War II) times. Family and household have adjusted, as have other elements of local culture and society, to the exigencies of wage employment, government support, modern technology, improved transportation and communication facilities, and the general incursion of Euro-American culture and economy. In some respects these adjustments have clearly been beneficial; in other respects tremendous problems have been created (Orbach and Holmes 1983:45). Large families were more common in earlier times but family planning practices, better nutrition, lower death rates, higher living costs, and greater mobility and independence have combined to result in smaller families (Braund 1986).

Although the social organization of St. Paul has remained relatively stable, certain changes have been observed. Orbach and Holmes (1983), for instance, reported that young couples will sometimes move in with a single older person, creating the mutual benefits of a home

for the young and company for the elder. However, this appears to be changing as emigration has increased in the past few years and recent construction of HUD housing has helped to ease the pressure on housing availability. As noted in the earlier section on population, average household size has declined through the 1980s.

Another change in the social organization of St. Paul has been observed in the practice of taking in and raising foster children. According to Orbach and Holmes (1983), many families raise one or more foster children. This may be changing, however. Local social service administrators report that it has become more and more difficult to place children into foster homes in the community. This has created a problem because community officials are reluctant to send these children off the island.

A third change concerns the role of women in the community. Prior to the withdrawal of NMFS, the sexual division of labor was fairly well defined. Men participated in the annual fur seal harvest and women ran the household and cared for the children. In recent years, however, more and more employment opportunities have been made available to women. They have been moving out of the home and into the workplace. Wage-earning jobs are no longer strictly dominated by men (Braund 1986:5-117).

More traditional informal institutions such as trading and mutual assistance partnerships have continued to be active. Subsistence exchange takes place with relatives and friends, most often in St. George, Anchorage, and in the villages of the Alaska Peninsula and Aleutian Chain, especially King Cove, Unalaska, and Akutan. As salmon is absent in the Pribilofs, it is a favorite item to receive in exchange for halibut, which is sent frozen, and fur seal meat and flippers, which are sent frozen or salted. Other items, such as sea lion and ducks are sent from the Pribilofs. St. Paul residents often send reindeer meat to exchange partners and relatives on St. George Island in exchange for cod and berry products (Veltre and Veltre 1981:202). Rather than being a reciprocal exchange, however, much of the shipment of subsistence products is direct gift-giving and may or may not be reciprocated (Orbach and Holmes 1983:143).

Braund and Associates also noted a change in sealing since the end of the commercial harvest. Ever since the forced relocation of Aleuts from the Aleutian Islands by the Russians in the late 18th century, the sociocultural system of St. Paul has revolved around the harvest of fur seals. Until 1985, the annual seal hunt was administered as a commercial operation with a well-defined hierarchy of workers and individuals who possessed a certain measure of social status by virtue of their skill at certain aspects of the harvesting activities. Although 1985 was the first year of a strictly subsistence harvest, it retained many of the aspects of the commercial model with its union or guild-like administration and hierarchy. As such, the subsistence seal harvest has become a blend of family food production and complex bureaucratic administration. This practice was repeated during the 1986 seal harvest although the level of participation and the number of seals harvested was much smaller than the 1985 harvest. These features have become attenuated with time, however.

2. Voluntary Associations

The bulk of this section derives from IAI 1987. There are numerous activities that involve different parts of the community and various agencies and organizations within them. Many of these organizations have been in St. Paul for several years. They include the Russian Orthodox Sisterhood, an informal sports club, the JOM Board, Health Board, Library Committee, Volunteer Fire Department/Search and Rescue, and Central Bering Sea Fishermen's Association. These organizations are distinguished by their history, their function, and level of participation. Some of these organizations such as the Russian Orthodox Sisterhood and the Church Council have been in existence for several years and are tied to community cultural and religious institutions. Others including the Volunteer Fire Department/Search and Rescue, Library Committee, and JOM Board are more recent and based on their involvement in the community's infrastructure. A few of these associations have a certain measure of political influence in the community as they provide advice and direction as to the administration of grant funds. Others, such as the Central Bering Sea Fishermen's Association have both political and economic objectives in their efforts to lobby for regulatory changes that would favor the local halibut industry as well as assisting local fishermen in getting their catch to market (Braund 1986:5-120). Some of these organizations are less active today than they have been in the past. The Russian Orthodox Sisterhood, for example, has been less active in the past few years and meetings are held infrequently. Membership has fluctuated between five and twenty women, including officers. Other organizations such as the sports club are more recent.

Organized recreation has become an important means for social interaction. There has been a conscious and deliberate effort to provide organized recreation in the community which is focussed around the school and the recreation center in St. Paul. Basketball, volleyball, and softball teams are formed among students and adults, including the men from the US Coast Guard station. Races, roller skating, dances, and community field days take place on school grounds. The recreation center provides space, pool and ping-pong tables, machines, and tables for other games. The recreation hall is managed by the Recreation Committee which organized, raised funds, and implemented the renovation and improvement of the old recreation hall with the participation of most of the community. The community has hosted region-wide athletic tournaments involving teams from Unalaska, St. George, Akutan, King Cove, and Sand Point.

Recreational activities are perceived throughout the community as an important means of reducing boredom and the need to leave the island, especially among younger residents. This is considered to be important because it represents part of the effort to be self-sufficient and maintain a certain identifiable lifestyle that is grounded on a traditional sociocultural system.

Other community-wide events and activities include adult recreation classes, potluck dinners, the annual "Flea Market," community dances, secular festivals, celebrations such as the Fourth of July and end of the seal harvest, and community bingo games (Orbach and

Holmes 1983). Community gatherings such as the Fourth of July, end of school year, or end of seal harvest often involve cook-out picnics, games and races, and dances in addition to private parties, going to the bar, and visiting (IAI 1987:174).

3. Religious Organization

The religious organization of St. Paul has remained relatively unchanged in the recent past. The chief religious institution on the island is the Russian Orthodox Church. Almost all Aleut residents of the island were baptized in the Russian Orthodox Church and are thus considered to be members even though active participation in regular church events is small and apparently declining. Apparently even children are no longer required by parents to attend weekly services as much as they were fifteen years ago (IAI 1987:174). This low level of participation should not be interpreted as reflecting a diminished role in the community, however. From its early days, the Church has been a stable and consistent feature of the lives of St. Paul residents, helping to create a sense of community and cohesiveness during the periods of upheaval and stress. Today, one can see the continued pervasiveness of the Church in many aspects of daily life, although attendance at weekly services is typically small. The Church provides a large and active cycle of events, both religious and social, which bring people together to share common experiences. The major events in the life cycle of community residents--births, marriages, and deaths--all involve the church to one degree or another. The Church is viewed as a cohesive force, providing a source of strength and encouragement during the transition from federal control to self-determination. It is also seen as an important element in helping to maintain the "Aleutness" of the people in the face of real or incidental actions to change or absorb them into the larger surrounding society (Orbach and Holmes 1983:114). Recent subsidies by the St. Paul IRA Council for the support of church activities reflect the community's awareness of the church as a key cultural institution (Braund 1986).

The only other religious institution on St. Paul is the Assembly of God Church which was built in 1966. Our time in the field was too short to collect current information on this church, but as of 1987 the congregation has largely consisted of Coast Guard personnel, teachers, and health care personnel. Relatively few Aleuts belong to the church because membership entails social ostracism and excommunication from the Russian Orthodox Church (Orbach and Holmes 1983:116). Some residents continue to criticize and resent the presence of this "outside" institution, although it has managed to develop a niche for itself in the community and performs some important functions. In 1982, for instance, Orbach and Holmes (1983) reported a large attendance of St. Paul residents at a memorial service for a suicide victim held at the Assembly of God Church. Such a service would not have been permitted at the Russian Orthodox Church because of its attitude toward suicide in general (IAI 1987:175).

4. Social Differentiation

The sealing profession has essentially established a precedent for social differentiation based on economic activities. Hence the impact of variation in activities and earned income has not been as profound in St. Paul as it has been elsewhere (IAI 1984). This, however, could change if employment opportunities remain curtailed, since construction projects have been largely completed and there are still few local economic opportunities.

A second basis for social differentiation has been ethnic identity. As noted above, the overwhelming majority of local residents are Aleut. Aleut identity continues to be an important marker of membership in the community. This is not to say that long-term non-Native residents have been excluded from community-wide social networks. Social relations between Natives and non-Native residents of St. Paul are cordial. Aleut residents, however, make a distinction between the long-term non-Native residents of the community and the non-Native immigrants which could potentially reside in the community if economic development and community growth were not adequately controlled. Many of the elements of social life which are perceived as negative or disruptive are blamed on the larger Euro-American society. Experience with non-Native administrators and traders has understandably produced a certain measure of mistrust of outsiders on the part of the Aleut residents. Consequently, certain segments of the community such as the IRA Council and the TDX Corporation leadership have actively sought to regulate the influx of outsiders into the community. These institutions have sought to encourage economic development that does not require the presence of skilled non-Native workers or administrators from outside the community.

Finally, the changes which have occurred in the social system of St. Paul over the past eight years reflect changes in the value system of the community. Some changes are subtle; others are more pronounced. Prior to the withdrawal of the National Marine Fisheries Service, the patterns of social interaction were fairly well established, having been based largely on traditional principles of kinship and subsistence exchange, and the hierarchy of work activities involved in the sealing profession. These patterns have recently been subjected to dramatic increases in income which alter the time and investment available for subsistence activities -- in particular the fur seal harvest -- and influence household size, and, indirectly, patterns of household formation. The potential decline in wage-labor positions with the completion of construction and development projects could also affect patterns of social interaction by forcing many local residents to move off the island in search of employment opportunities. The values which promote these changes in patterns of social interaction do not always conform to the values which dictate that residents remain on the island, display generosity to less fortunate relatives and friends, and exhibit unity in the face of outside influence and presence.

The transfer of control of the community and its economy to local institutions has also had an effect on the value system of community residents. The value placed on local control helped to motivate the growth of local institutions and the end of federal domination of the

island's economy and political system. However, for many residents, the transfer of authority has produced mixed feelings ranging from relief to anxiety over the elimination of the traditional dependence on external political structures. Similarly, the new self-reliance in the political and economic arenas has affirmed traditional Aleut values on the one hand while generating a relatively "new" set of values on the other.

In sum, the value system of St. Paul residents today is a blend of old and new, Aleut and Euro-American, dependent and self-reliant. For the most part, these values are arranged so that they peacefully co-exist. At times, conflicts are generated leading to the development of different community factions with different priorities. Conflicting values may also be observed in the ambivalence toward outside influence which could potentially improve the local economic situation on the one hand but threaten to erode traditional social and cultural institutions on the other. Nevertheless, these values have guided the changes in community institutions over the past six years, and in turn are products of these institutional changes.

5. Sociocultural Values and Views on Resource Management

Values associated with the land and the sea play a central role in the traditional sociocultural system of Aleuts throughout the region. Both land and sea were important sources of subsistence resources; world views stressed the interrelationship between the social group and their physical environment; and value systems reinforced qualities such as self-sufficiency, cooperation, courage, and work dictated by the demands of the environment. However, the relationship between the Aleuts of St. Paul Island and their environment differed somewhat from the relationship as it existed elsewhere in the region. One important difference was in the commercial utilization of the environment. St. Paul's sociocultural system represents a synthesis of a traditional Aleut culture dependent upon subsistence activities and the imposition of a Euro-North American sociocultural system based on the commercial harvesting and processing of fur seals. Both remain as important components of the sociocultural system of St. Paul Aleuts despite the fact that the commercial harvesting and processing of fur seals has been eliminated by recent legislation. Thus, land and sea have traditionally been viewed as both commercial and subsistence resources which helps to explain certain aspects of recent development priorities and projects (IAI 1987:161).

6. Subsistence

Unlike other Aleut communities, St. Paul historically was not subsistence-based in the traditional sense. This is because of St. Paul's unique beginning as a community established solely to meet the commercial objectives of the Russian fur seal harvesters. The original Native residents were imported to the previously uninhabited island to work as seal hunters. Subsistence hunting never became entrenched as a way of life for the Natives of St. Paul.

Consequently, if one views the practice of subsistence from an economic perspective, that is, in terms of labor hours, costs of subsistence production, and return in labor investment, it does not appear to be a significant activity in St. Paul. However, subsistence does have social as well as economic significance. The exchange and sharing of subsistence harvest foods plays an important role in the maintenance of kin networks within the community as well as ties to kin members residing elsewhere. Thus seal meat, abundant in St. Paul, is frequently exchanged with relatives or exchange partners residing in other communities such as King Cove, Akutan, Unalaska, and Anchorage (IAI 1987:213-4), in return for resources that are uncommon or non-existent locally. Salmon is a preferred subsistence food to be traded to St. Paul although caribou is also popular. It is also clear that subsistence activities have supplemented local diets since the populating of the Pribilofs. "Halibut and seal (respectively) are the most heavily used local foods on an annual basis. Frequently mentioned preferred foods included seal, fowl, and reindeer" (Braund 1986:5-138).

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**COMMUNITY PROFILE DEVELOPED FOR THE
SOCIAL IMPACT ASSESSMENT OF THE
INSHORE/OFFSHORE AMENDMENT PROPOSAL**

Unalaska, Alaska

Submitted to

North Pacific Fishery Management Council

Submitted by

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Table of Contents
Unalaska Community Profile

INTRODUCTION	1
POPULATION	2
Size and Composition	2
Total Population	2
Ethnicity	6
Age and Sex	7
Household Size and Composition	11
Educational Status	13
SOCIOECONOMICS	16
Economic Profile	16
The Fishing Industry	16
Harvesting	19
Processing	25
Fishery Support Industry	35
Fisheries and Other Employment	39
Public Fiscal Characteristics	43
Infrastructure	47
Electricity	47
Fuel	48
Solid Waste	48
Water and Sewer	48
Housing	49
Marine Facilities and Services	52
Airport	54
SOCIOCULTURAL PROFILE	56
Social Organization	56
Government	56
Organization and Scope of Operations	56
Federal Government	56
State Government	59
Local Agencies and Institutions	61
Overlaps, Cooperation, and Conflicts	62
Quasi-governmental, Regulatory, and Industry Associations	63
Native Corporations and Tribal Organizations	63

	Marine Natural Resource Managers	65
	Industry Associations	65
Social	Services	67
	Organization and Operation of Services Available	67
	Description of Client Population	72
	Summary of Major Social Problems	72
	Relation of Social Problems to Fishery-Related	
	Populations	74
	Projected Service Demands and Resources	76
	Health	77
Sociocultural	Values	79
Religion	79
	History of Churches	80
	Contemporary Churches	80
Views	on Resource Management	82
	Mineral Resources (nonrenewable)	82
	Biological (renewable)	83
	Local versus Non-Local Control	83
Subsistence Activity in the Community	84
	Sociocultural and Historical Significance	84
	Relationship of Subsistence to Commercial Fishing	90
	Historical Relationship	90
	Current Relationship	91
	Relationship of Subsistence to Other Types of Employment ...	91
	Relationship of Subsistence to Recreational/Sports Fishing ...	92
REFERENCES	93

UNALASKA, ALASKA

I. INTRODUCTION

Unalaska is a community that currently has a strong local economy which is primarily driven by the fishing industry and related services. Unalaska was the number one port in the nation in 1989 in volume of product brought on shore, with 504 millions pounds, and number two in dollar value at \$107.2 million, according to NMFS figures. These numbers do not include the vast amount of product that is transshipped in the harbor. The figures of transhipped product are kept by the Census Bureau on Shippers Export Declaration forms and, while these data have proven difficult to obtain, it is locally estimated that the transhipped product would exceed one billion pounds annually. According to the city of Unalaska, over the past two years an excess of \$225 million has been invested on shore in Unalaska. This includes additional processing facilities, service facilities, utility improvements, school facilities, housing, and road improvements. Specific projects include Westward Seafoods (new processing facility), UniSea Inc. (new dock, addition to processing facility, and fishmeal plant), Alyeska Seafoods (fishmeal plant), Delta Western (warehouse and service facilities), Offshore Systems, Inc. (warehouse and service facilities), Factory Trawler Supply (warehouse), and joint project of the Department of Housing and Urban Development, and the Ounalashka Corporation (multifamily housing development).

II. POPULATION

A. Size and Composition

1. Total Population

It has always been difficult to ascertain total population figures for Unalaska. The contemporary community of Unalaska (and the legal entity of the City of Unalaska) includes a part of Unalaska Island and the entirety of Amaknak Island, a portion of which is commonly known as Dutch Harbor. In this profile we are using the name Unalaska to refer to both Unalaska and Dutch Harbor.¹ Over the years, Unalaska has been a temporary home to many transients whose length of stay in the community has varied. These individuals have been counted in different ways, or not counted at all, in a number of censuses. Caution must therefore be used in interpreting the following table (Table 1) which includes total population figures from various sources for the years 1970 through 1989.

With continued expansion of the groundfish industry, among other factors, the population is expected to grow from the 1989 figures by 10 to 15% per year over the next two years and then grow more slowly at 5 to 10% per year through 1994 (Professional Growth Systems, Inc 1990:11). Even if fishery expansion and diversification does not occur as expected, growth will continue at a rate of 5% because the community is continually behind in support services and housing. Population growth projections appear in Table 2.

As mentioned above, Unalaska maintains a very high transient population. This transient population includes workers at shore processing plants, although this particular population segment is notably less transient than in previous years as shore processing has become less

¹"Dutch Harbor" has its own named post office and postal service zip code, the airport serving the community of Unalaska is known as the Dutch Harbor airport, and the harbor facility operated by the City of Unalaska is marketed by the city as the "International Port of Dutch Harbor." Nevertheless, there is today no separate "community" of Dutch Harbor, as it is fully encompassed by the City of Unalaska. Even the body of water known as Dutch Harbor, from whence the original settlement derived its name, lies completely within the city limits of Unalaska. The existence of the two names Unalaska and Dutch Harbor has proven to be a source of considerable confusion for record keeping and archival research over the years, and this tradition continues to the present: the name Dutch Harbor or simply the nickname "Dutch," is more commonly known and used outside of the community than the official name of Unalaska. The application of the name of Dutch Harbor to the portion of the community on Amaknak Island is a holdover from an early commercial settlement there that was at the time distinct from the contemporaneous residential community of Unalaska. That the present community of Unalaska is physically split between two islands, that these segments were historically socially distinct and, indeed, that they were only relatively recently joined by a bridge, has had many consequences for the community which are discussed elsewhere (Impact Assessment 1983a; Downs 1985). These include residential/industrial utilization patterns and ethnic group interactions, among others. Most of the permanent residents of the community prefer the name Unalaska to be used broadly to include both the Amaknak Island and Unalaska Island portions of the settlement. For the sake of accuracy and clarity, therefore, we include residential and industrial areas on both islands when referring to the community of Unalaska. The differential use of the two names remains an emotional issue for a significant number of residents in the community.

seasonal and more year-round in nature. (This topic is discussed in some detail below.) In addition to the shore-resident transient population, there are also a number of individuals who may be thought of as a "floating population." These individuals are from fishing fleets, floating processors, catcher/processors, and freighters that stop at the port of Unalaska for resupply. Estimates of the "floating population" are provided in Table 3. Although not true residents of the community of Unalaska, this "floating population" requires social services, use of the harbor, and other resources from the city of Unalaska. Unalaska is, at least seasonally, where they live and work. The demands on city services from the transient population is discussed below in the section on social services.

It should not be assumed that the characterization of Unalaska's "non-transient" population is not without its own difficulties as the nature of the community has changed over the years. Discussion and analytical categorization of the less transient portions of the Unalaska population differ in various publications on the community. In this document, there are some distinctions made between "permanent" residents and "long-term transient" or "semi-permanent" residents of the community. These distinctions are drawn only where they reflect significant differences in viewpoints in the community. For the purposes of discussion, "permanent" residents of the community are those individuals for whom Unalaska is their community of orientation, independent of their employment status. "Long-term transient" or "semi-permanent" residents are those individuals for whom Unalaska is now their community of residence, but for whom residency decisions are based virtually exclusively on employment criteria. In other words, a "permanent resident," as that term is used in this document, is an individual who considers Unalaska "home" and is highly unlikely to move from the community due to termination of a particular job. These individuals tend to remain in the community and seek other employment if a specific job ends, and they also typically remain in the community after their retirement from the labor force. A "long-term transient" or "semi-permanent" resident, on the other hand, is an individual who typically has moved to Unalaska for a particular employment opportunity, and is highly likely to leave the community if that specific employment opportunity is terminated for any reason. These individuals may indeed remain in the community for a number of years, but their residency decision making process is predicated on Unalaska being first and foremost a work site. Obviously, the categories "permanent" and "long-term transient" or "semi-permanent" resident are not absolutely precise terms, but they are analytically useful where they conform to specific orientations toward the community that serve to shape community politics, development objectives, community perception, and so on.

Year	Population	Data Source
1970	342 ^a	U.S. Bureau of the Census
1970	475	Jones & Jones, per Surla, 1970
1972	548	Unalaska City Council Census
1973	510	Unalaska City Council Census
1975	417	U.S. Bureau of the Census
1976	510	U.S. Bureau of the Census
1977	725	Alaska Consultants, Inc, 1981
1977	1,971	Tryck, Nyman, and Hayes, 1977
1980	1,322	U.S. Bureau of the Census
1980	1,380 ^b	Alaska Department of Labor
1980	1,310	Department of Community and Regional Affairs
1981	1,944 ^b	Alaska Department of Labor
1982	1,922 ^b	Alaska Department of Labor
1983	1,677 ^b	Alaska Department of Labor
1984	1,447 ^b	Alaska Department of Labor
1985	1,331	Alaska Department of Labor
1986	1,922	Department of Community and Regional Affairs
1987	1,331	Department of Community and Regional Affairs
1987	1,680	City of Unalaska
1988	1,908	City of Unalaska/DCRA
1989	2,265 ^c	City of Unalaska/DCRA

^aAn example of the difficulty with Unalaska population figures may be seen in this figure. According to a local resident well-versed on the topic, the 1970 census "was done by the census taker from memory, sitting at home, and it was not accurate to any degree" (Impact Assessment 1987:64).

^bADOL estimates derived using US Census methodology. Where these figures are the same as those cited by DCRA, ADOL accepted local censuses or estimates (Kevin Waring Associates, 1988:656-7)

^cThe federal revenue sharing population figure is 2,899.

Year	Projected Pop with 10% Growth	Projected Pop with 15% Growth	Plus New Processors	Projected Total Range
1989				2,265
1990	2,495	2,605	300	2,795 - 2,905
1991	3,075	3,341	500	3,575 - 3,841
Year	Projected Pop with 5% Growth	Projected Pop with 10% Growth	Plus New Processors	Projected Total Range
1992	3,754	4,225		3,754 - 4,225
1993	3,942	4,647		3,942 - 4,647

Source: Professional Growth Systems, Inc. (1990:11).

Vessel Type	Estimated Vessels	Average Crew Size	Floating Population
Trawlers			
Catcher Vessels	110	5	550
Catcher/Processors	60	75	4,500
Floating Processors Only	2	160	
Longline			
Catcher Vessels	100	6	600
Catcher/Processors	20	25	500
Floating Processors Only	16	25	400
Crab			
Catcher Vessels	225	5.5	1,238
Catcher/Processors	25	22	550
Floating Processors Only	13	70	910
Cargo Vessels	350	25	8,750
Total Floating Population			18,318

Source: American Trawlers Assoc.; Alaska Crab Coalition; State of Alaska Dept. of Fish and Game; Resource Inventory and Analysis, Volume II, Aleutians West Coastal Resource Service Area, March 1990; The In-shore/Offshore Dispute: Impact of Factory Trawlers on Fisheries in the North Pacific and Proposals to Regulate the Fleet, The North Pacific Seafood Coalition, March 1990; and subsequent consultation with on-site resource Sinclair Wilt, Supervisor, Alyeska Seafoods, Unalaska. (Cited from Professional Growth Systems, Inc. 1990:12).

2. Ethnicity

Unalaska may be described as a plural or complex community in terms of the ethnic composition of its population. Although Unalaska was traditionally an Aleut community, the ethnic composition has recently fluctuated with the number of transients. Not surprisingly, this fluctuation coincides with periods of resource exploitation and scarcity. For example, the economic and demographic expansion associated with the king crab boom in the late 1970s and early 1980s brought many non-Aleuts to Unalaska, including Euro-North Americans, Filipinos, Vietnamese, Koreans, and Hispanics. The ethnic composition of Unalaska's population for the years 1970, 1977, and 1980 appears in Table 4. Unfortunately, more recent census information detailing ethnicity (i.e., the 1990 U.S. Census) is not yet available.

Ethnic Group	1970 ^a		1977 ^b		1980 ^c	
	N	%	N	%	N	%
Caucasian	56	31.0	387	62.9	848	64.1
Black	0	0.0	7	1.1	19	1.5
Native Alaskan	113	63.4	178	28.9	200	15.1
Aleut	107	60.1	166	27.0	-	-
Eskimo	5	2.8	8	1.3	-	-
Indian	1	0.5	4	0.6	-	-
Other	9	5.6	35	5.7	255	19.3
Unknown	-	-	8	1.3	-	-
Total	178	100.0	615	99.9	1,322	100.0

Source: ^aUniversity of Alaska, 1973. ^bTryck, Nyman and Hayes, 1977.
^cU.S. Bureau of Census, 1980.

With the growth of the non-Aleut population, Aleut representation in the political and other public social arenas has declined significantly. For example, in the early 1970s, Aleut individuals were in the majority on the city council; by the early 1980s only one city council person was Aleut (IAI 1987:65).

3. Age and Sex

In the recent past, Unalaska has had more men than women. Historically, this has been attributed to the importance of the fishing industry in bringing in transient laborers, most of whom were young males. In 1977, the proportion of males in the total population increased to 59% from 55% in 1970 (IAI 1983:85). Local census figures from 1987, however, show a reversal of this trend with females accounting for 50.3% of the population and males accounting for 49.7%. This may be taken as some evidence of the changing nature of Unalaska's general population from a highly transient one to a more stable one. In the 1987 count, of the 1,630 total persons, 926 were residing in primarily residential areas and 704 were residing in primarily industrial areas. (It should be noted that at the time the 1987 census was taken, processing plant housing was not used to capacity as it was during other periods during that same year. If the count were taken at peak, approximately 230 additional persons would have been counted in the industrial area, for a total of 934 industrial area residents and an overall count of 1,860 for the community.) Length of residency is highly correlated with residence area within the community. In the 1987 local census, average length of residency was found to be 14.99 years in the residential areas², while average length of residency within the industrial areas of the community was "in excess of six (6) months." Tables 5 - 7 below show the age, sex, and ethnic breakdowns for 1970, 1977, and 1980. Sex and age population information only is available for 1987, and is displayed in Table 8.

**Table 5
Population Composition
Unalaska, 1970**

Age Range	Alaska Native			Non-Native			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5 years	7	7	13	3	1	4	10	8	17
5 - 14	15	16	31	4	4	8	19	20	39
15 - 24	10	11	21	5	4	9	15	15	30
25 - 34	4	5	9	12	6	18	16	11	27
35 - 44	15	8	23	2	0	2	17	8	25
45 - 54	7	4	11	6	5	11	13	9	22
55 - 64	6	5	11	2	2	4	8	7	15
65 and over	1	2	3	0	0	0	1	2	3
Total	64	58	122	34	22	56	98	80	178
Median Age	27.5	20.9	23.3	29.6	29.2	29.2	29.1	23.4	26.3

²This figure was derived primarily taking the length of residency of the 'head of household,' as it would be very difficult and time consuming to assemble information on the length of residency for each and every individual within the community (Unalaska unpublished population survey, 1987).

Table 5 (continued) Population Composition Unalaska, 1970			
Age Range	Total		
	Male	Female	Total
Under 5 years	9	8	17
5 - 9	8	12	20
10 - 14	11	8	19
15 - 19	8	7	15
20 - 24	7	8	15
25 - 29	11	5	16
30 - 34	5	6	11
35 - 39	10	5	15
40 - 44	7	3	10
45 - 49	8	5	13
50 - 54	5	4	9
55 - 59	5	6	11
60 - 64	3	1	4
65 and over	1	1	3
Total	98	80	178
Median Age	29.1	23.4	26.3

Note: Native is defined as Aleut, Eskimo, Indian, and others excluding White and Black.

Source: U.S. Census.

**Table 6
Population Composition
Unalaska, 1977**

Age Range	Male	Female	Total
0 - 4	23	18	41
5 - 12	28	40	68
13 - 17	28	19	47
18 - 24	46	46	92
25 - 34	107	56	163
35 - 44	42	23	65
45 - 54	40	22	62
55 - 64	19	14	33
65 - 74	4	2	6
75 and over	1	0	1
Unknown	22	15	37
Total	360	255	615
Median Age	30.2	25.9	28.7

Note: Permanent residents only; does not include 1,256 non-residents present in Unalaska at the time of the census.

Source: City of Unalaska census, September 26 to October 8, 1977, conducted by Tryck, Nyman and Hayes and the City of Unalaska (Tryck, Nyman and Hayes, 1977).

**Table 7
Population Composition
Unalaska, 1980**

Age Range	Alaska Native			Non-Native			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 5 years	8	3	11	21	14	35	29	17	46
5 - 9	3	9	12	13	19	32	26	28	54
10 - 14	6	12	18	12	18	30	18	30	48
15 - 19	16	10	26	44	29	73	60	39	99
20 - 24	17	11	28	176	111	287	193	122	315
25 - 29	11	10	21	173	80	253	184	90	274
30 - 34	18	8	26	139	41	180	157	49	206
35 - 39	3	5	8	56	21	77	59	26	85
40 - 44	5	2	7	30	12	42	35	14	49
45 - 49	7	1	8	25	12	37	32	13	45
50 - 54	7	4	11	22	12	34	29	16	45
55 - 59	4	2	6	16	7	23	20	9	29
60 - 64	2	0	2	7	6	13	9	6	15
65 - 69	2	1	3	2	2	4	4	3	7
70 - 74	0	1	1	1	0	1	1	1	2
75 and over	1	1	2	1	0	1	2	1	3
Total	110	80	190	738	384	1,122	858	464	1,322
Median Age	25.2	23	24.3	28	25.1	27.1	27.8	24.8	26.8

Source: U.S. Census

Age	Females ^a	Males ^a	Overall ^b
0-4	13.2%	8.9%	11.0%
5-9	5.9%	8.9%	7.4%
10-14	4.4%	6.7%	5.5%
15-19	8.4%	5.9%	7.2%
20-24	10.2%	10.0%	10.2%
25-29	12.1%	15.5%	13.8%
30-34	16.5%	14.8%	15.8%
35-39	12.4%	9.6%	11.0%
40-44	4.0%	8.5%	6.3%
45-49	4.4%	4.1%	4.2%
50-54	3.3%	1.5%	2.4%
55-59	1.5%	2.2%	1.8%
60-64	1.5%	1.9%	1.6%
65+	2.2%	1.5%	1.8%

^aThe percentages found under the headings of "female" and "male" reflect the percentage of that population by sex and age group (i.e., 13.2% of the female population is found in the age group 0-4 years of age). The "overall" category reflects the percentage of the overall population by age group. Source: City of Unalaska, population survey of June - September 1987.

B. Household Size and Composition

Household type in Unalaska varies by population segment. Virtually all permanent residents live in single-family dwellings, whereas short-term transients live in group housing at work site enclaves. Longer-term transient workers tend to live in apartment buildings adjacent to worksites, however, one seafood processor produces multi-family dwellings in what is otherwise primarily a single family residential area (although it is formally zoned as a mixed use area). Over the past decade there has been a shortage of housing in the community. In 1982 there were virtually no housing openings, and the housing shortage was cited as one of the major problems facing the community. Demand lessened somewhat in the mid-1980s, but by 1987 (according to a population and housing survey conducted by the City of Unalaska in 1987 for the Department of Community and Regional Affairs) the only vacancies were to be found in the fish processing facility bunkhouses. The same problem with housing vacancies was reported in subsequent surveys by the City. The 1989 edition of the report to the Department of Community Affairs discussed the adverse economic impacts of "zero vacancy" in the community:

. . . for over two years there has been a "zero vacancy" rate within the municipality due to rapid expansion of the bottomfish industry; and the necessary development required to meet industry needs (i.e. service entities, residential, etc.). However, this has not discouraged continued in-migration. Almost every available motel room, bunkhouse space, etc. has been taken up on an indefinite basis. In many cases, families are "doubling-up" until housing becomes available. Others have been forced to leave the community either because they have lost housing or there is nothing available. The municipality itself has *lost several employees due to lack of adequate housing.* (Italics added.)

The problem in the community is well-known, and Unalaska is perceived as a boom-town by many in the state. For example, an Anchorage Times article reported that the housing problem was so severe that one man made his shelter among a giant stack of crab pots stored on the island (Anchorage Times 1988:D2). The problem is still current through the present, and it is affecting even municipal operations. According to the director of the Department of Public Safety, as of October 1990 there were positions open for police that could not be filled because there were no places to house new officers in the community.

In spite of the housing crunch, average household size has not changed much over the past several years. In the residential areas of the community, the present average household size was reported to be 2.64 (City of Unalaska, 1989). This number is consistent with City estimates from 1987 and 1988. In the longer term, however, household size in Unalaska has been affected by in-migration and associated changes in sociocultural institutions. Household size increased in the boom days of the crab fishery, a period during which the rate of increase in population far exceeded the availability of housing. Average household size declined in the early 1980s due to: (1) the construction of "HUD housing" by the Aleutian Housing Authority which allowed for some dispersal of extended family units into individual houses; (2) an increase in income and options for financing available for construction of privately constructed housing; and (3) a dip in population pressure. The decline in household size has had an effect on kinship-based patterns of residence and social interaction. In Unalaska, the vast majority of new homes constructed between 1980 and the present have been built away from the previous main residential area of the community, lowering the population density of the core area and rearranging the relative proximity of kin and friends. In particular, the construction of both HUD and private housing away from the downtown area has created economically and ethnically differentiated residential neighborhoods in a community where such differences were previously subtle, if they existed at all.

In 1989, a total of 52 building permits were issued by the City, but growth analysis based on permit issuance patterns is problematic as permits were not classified according to building type. Growth in construction in the community is evident, however, by the fact that a total of 93 building permits were issued in 1990.

C. Educational Status

Because of Unalaska's status as a first-class city, it is served by an independent school district controlled by a five-member, locally elected school board. The Unalaska City School serves students from kindergarten through twelfth grade. Both elementary and secondary units of the City School are located on a 5.5 acre complex on the Unalaska side of the city.

The recent past has featured both expansion and contraction of demand for educational services in Unalaska. During the early to mid-1980s a number of important changes took place in Unalaska's educational institutions. During the crab boom years of the late 1970s, the educational system underwent a period of considerable expansion in enrollments, facilities, services, and personnel. The influx of new residents and transients meant that there was a larger population of children to be educated and new services provided for long-term residents. Funding increased to provide new facilities at the Unalaska School, and programs were developed for preschool and post-secondary education. Even when the crab boom ceased, the process of expansion continued for a few more years until the decline in state and local revenues forced a greater emphasis on fiscal management and adjustment to a period of diminishing resources (IAI 1987:104).

More recently, demand for schooling has risen again dramatically. For example, as of the beginning of the 1990-1991 school year a new school remodeling project and addition were being completed. Although the school was nearly doubled in size in terms of square footage, and the original portion of the school was significantly altered, the school still cannot meet present demand in the community. Indeed, after expending \$8.5 million for the expansion, remodeling, and grounds improvements, the superintendent estimates that the school is two classrooms short entering the current school year. The primary reason for this shortage is state regulations which are designed to prevent overcapitalization by school districts, but which can have the effect of forcing undercapitalization of rapidly expanding districts. Under state law, schools can only be planned and built based on current student populations, and not upon projected future population figures. Unalaska school officials knew that the student population would continue to grow based on overall community growth, but were prevented from building the necessary facilities to accommodate the anticipated students.

Another reason for the growth of the student population at the school is the recent expansion of school services to include a preschool program. In 1982, the Unalaska-Dutch Harbor Cooperative Preschool was organized as a parents cooperative and funded by tuition payments and community donations. Initially, the city provided a \$3,000 contingency fund for teachers' salaries which had not been used as of 1987 (IAI 1987:104). As of the 1988-1989 school year, however, the community decided that Unalaska had grown to the point that it was incumbent upon the school district to provide preschool services and the district took over operation of the preschool. Enrollment figures for the period of 1978-79 through 1990-91 are provided in Table 9. The population bulge associated with the king crab boom

is apparent in the increase that peaks in 1980-81; also apparent is the following decline associated with the crash of the crab industry and the subsequent rebound associated with the development of the bottomfish industry.

Year	School Enrollment	Preschool Attendance
1978-79	158	
1979-80	160	
1980-81	195	
1981-82	177	
1982-83	171	
1983-84	144	
1984-85	140	
1985-86	137	
1986-87	159	
1987-88	159	
1988-89	199	< 30
1989-90	186	40
1990-91	258*	48*

*as of Sept. 1, 1990
Source: Unalaska City School

Attendance at the school is expected to continue to increase as the community continues to grow. Attendance for the 1991-1992 school year is anticipated to be between 285 and 300 students (exclusive of the preschool), according to senior school administrators. Even if economic growth were to plateau, attendance figures are still expected to rise. There are families waiting to move to the community that are not presently located in Unalaska simply because of a lack of housing, and as housing frees up they will do so. It was also noted by senior school staff that the nature of the student population has changed in recent years with respect to student population turnover. As the economy of Unalaska has become more year-round and less seasonal, reflecting changes in the fishing industry, more families associated with the fishing industry are moving to Unalaska, and staying longer. It was further noted by school staff that a lot of these are "young" families with children in the lower grades (for 1991, 165 students, or 64% of the total students, at the school were enrolled in grades K-6). In other words, instead of Unalaska being a seasonal work site for large numbers of individual adults, more workers are making the community their place of residence and moving their families to the community. Even with this trend, however, there are significant numbers of single transient workers in the community, as discussed elsewhere.

There are a number of educational opportunities available to Unalaskans beyond high school. These include classes offered by the University of Alaska Rural Education Center, adult education programs run through independent entities, and classes offered by the City's Department of Parks, Culture, and Recreation (IAI 1987:198). There is also an ongoing English as a Second Language program. One measure of the ethnic diversity in Unalaska, and the educational challenges resulting from this diversity, is the fact that during 1990, enrollees in the English as a Second Language program included individuals who were native speakers of seven different languages. It should also be noted that the school building itself serves as a focal point for indoor recreation in the community. The swimming pool is open to the community at large during a number of non-school hours, and the gymnasium is host to organized basketball and volleyball leagues as well as open recreation throughout the year.

III. SOCIOECONOMICS

A. Economic Profile

The commercial economy of Unalaska is dominated by fisheries and fisheries-related activities. Indeed, most of the non-fisheries activity is designed as support for the fishing industry. This includes shipping companies, local retail and support businesses, and other transportation activities (IAI 1983:97). At present, the economy of Unalaska is booming in response to the prosperous groundfish industry. Among the recent and planned developments are the following:

- Crowley Maritime is constructing a marine machine shop;
- A floating dry dock has been put in place and is being heavily utilized;
- Delta Western has opened a large warehouse that serves as a "caselot" store for food and general provisions outlet to service boats and the general public;
- Alaska Commercial is planning a new "superstore"; and
- Another market in town is negotiating for land to build a supermarket (Pacific Growth Systems, Inc. 1990:9; City of Unalaska, pers. comm. 1991).

The following sections describe the history and current status of the fishing industry and public fiscal characteristics.

B. The Fishing Industry

In the late 1970s and early 1980s the community prospered significantly from the king crab fishery. The crab boom resulted in a dramatic increase in both fishing boats and processors in town. In the mid-seventies there were from 90 to 100 commercial vessels regularly fishing the Bering Sea. By 1979 the number had jumped to between 250 and 280, an increase so dramatic that it was difficult for skippers to find crew members.

The king crab fishery has subsequently declined substantially and fishermen and processors alike have had to diversify their businesses in order to survive. One of the avenues of diversification has been the groundfish fishery, and this has itself led to a new prosperity following a local post-crab boom depression. Currently, the harvesting and processing sectors of the groundfish industry are the driving factors in Unalaska's economy (Knapp 1990:12). In 1989, Unalaska ranked highest in the nation in terms of volume of product landed (504 million pounds) and second in the nation in the dollar value of product landed (\$107.4 million). Because of the abundance of groundfish in the Bering Sea and the potential for further growth in the sector, the community has developed a variety of support businesses to service the demands of the harvesting fleets. According to Knapp (1990:13), this "primary support community for the Bering Sea fishing industry . . . employs some 30,000 persons in foreign and domestic fishing ventures (City of Unalaska, page 1)."

Table 10 below illustrates the growth of the commercial fishing industry in the community through changes in the volume and value of fish landed at Unalaska. The significant point emerging from this table is that while the total volume of harvests fell from 136.5 to 46.9 million pounds (a 65.6% decrease) between 1980 and 1984, the total volume of harvests has subsequently risen to 504.3 million pounds in 1989 (an over 1000% increase from its low point in 1984). The average value per pound of fish has declined steadily since 1982, because of the ever higher volume of relatively low-valued groundfish being harvested. The increase in volume harvested, however, has compensated for the decrease in average value. The total value of fish landed in the community has increased steadily since 1984, and in 1988 surpassed the total value of catch landed at the peak of the crab boom in 1978.

Year	Volume (millions of pounds)	Value (millions of dollars)	Average Value (\$/lb)
1977	100.5	61.4	0.61
1978	125.8	99.7	0.79
1979	136.8	92.7	0.68
1980	136.5	91.3	0.67
1981	73.0	57.6	0.79
1982	47.0	47.6	1.01
1983	48.9	36.4	0.74
1984	46.9	20.3	0.43
1985	106.3	21.3	0.20
1986	88.3	37.1	0.42
1987	128.2	62.7	0.49
1988	377.3	100.9	0.27
1989	504.3	107.4	0.21

Source: 1977-1986: National Marine Fisheries Service data cited in Department of Community and Regional Affairs community profile for Unalaska/Dutch Harbor. 1987-1989: National Marine Fisheries Service, Fisheries of the United States, May 1988 and May 1989. (Cited from Knapp 1990:13).

While the above table reveals a general trend toward increased volume of fish landed and decreased average value per pound, Table 11 below breaks down ex-vessel value by species. From these tables, we see groundfish taking up an increasingly large share of the total pounds landed at Unalaska. For example, in 1987 there were 73,950,688 pounds of groundfish landed. The number of pounds rose to 318,099,480 in 1988 and 398,563,817 in 1989. This represents an increase of approximately 540% over a three-year period. However, because the value of groundfish per pound is relatively low, its contribution to the total catch landed at Unalaska is still overshadowed by shellfish landings. For example, if one looks at the total ex-vessel value of all groundfish species combined for the years of

1987 and 1988, it is exceeded by the value of each of two shellfish species in 1987 (Brown King Crab and *C. opilio*) and by the value of one species of shellfish in 1988 (*C. opilio*). for both 1987 and 1988. In 1989 the ex-vessel value of groundfish landed surpassed any one species of shellfish landed for the first time, but only outdistanced *C. opilio* landings by 2.5%. The total value for all species of shellfish combined still accounted for over 63% of the total catch value landed at Unalaska in 1989, but this percentage has been declining steadily as the landings of groundfish have grown. The value of the groundfish landings is approaching 40% of the total for all species for the community despite the relatively short history of groundfish processing in the community.

Table 11
Pounds Landed and Ex-Vessel Value at Unalaska
by Species and Year, 1987, 1988, 1989

Species	Pounds Landed			Ex-Vessel Value		
	1987	1988	1989	1987	1988	1989
SHELLFISH						
Red King Crab	1,194,927	3,699,537	2,005,698	4,791,657	18,821,835	10,028,490
Blue King Crab	164,317	0	32,530	663,841	0	94,337
Brn. King Crab	5,112,600	3,846,978	2,938,289	14,826,540	12,310,330	10,430,925
<i>C. opilio</i>	44,355,171	44,729,700	48,645,366	32,379,275	38,020,245	36,484,024
<i>C. bairdi</i>	0 ^a	989,787	2,610,981	0	2,128,042	7,571,845
Dungeness	0 ^a	22,634	11,124	0	20,371	10,012
Scallops	0	67,892 ^b	175,505	0	271,568	702,020
Total Shellfish	50,827,015	53,356,528	56,419,493	52,661,313	71,572,391	65,321,653
GROUNDFISH						
Tot. Groundfish	73,950,688 ^c	318,099,480 ^d	398,563,817 ^e	8,367,734	27,318,000	37,396,143
MISC.						
Salmon	0 ^f	629,000	0	0	452,000	0
Herring	0 ^f	4,008,000	0	0	505,000	0
Assorted	2,795,210	0	0	759,980	0	0
Total Misc.	2,795,210	4,637,000	0	759,980	957,000	0
GRAND TOTAL	127,572,913	376,093,008	454,983,310	61,789,027	99,847,391	102,717,796

^a See "Assorted" category.
^b Includes shrimp as well as scallops.
^c Includes: General Groundfish, Pacific Cod, Flounder, Greenling, Greenland Turbot, Red Rockfish, Perch, Thornyhead Rockfish, Yelloweye Rockfish, Pollock, and Sablefish.
^d Includes: Pollock and Cod only.
^e Includes: Halibut, Herring, Cod, Red Salmon, Pink Salmon, Chum Salmon, Pollock, Black Cod, Idiot, Turbot, Red Snapper, Meal, Pop, and Flounder.
^f Includes: Squid, Snails, Dungeness, *C. bairdi*, Herring, Salmon, and Korean Hair Crab.
Source: Alaska Dept. of Fish and Game, Dutch Harbor/Unalaska Office, unpublished memoranda.

The following discussion of the fishing industry is divided into the harvesting and processing sectors, as each has significance for the Unalaska economy and community. A third section provides information on fishing industry support services.

1. Harvesting

Few permanent residents of the community are involved with the harvest of commercial fishery resources as vessel owners. For example, the halibut fishery is run on a total quota system in which open fishing is allowed until the quota is filled and this has produced a strong local perception that the small fishermen are losing most of their catch to highliners from "Outside." A number of local people have been fishing for halibut in skiffs for sport or subsistence, but few so far fish commercially (IAI 1987:101).

The out-of-state fishermen and processing workers who dominate the industries in Unalaska come predominantly from the northwest U.S. and the west coast. Fishermen come up from Seattle and other west coast ports every year on a seasonal basis and they generally have vastly superior ships, equipment, and capitalization. These "highliners" are able to harvest large amounts of the resource, and leave most local fishermen far behind in terms of volume and income. As a group, locals, and Aleuts in particular, are very under-represented in the harvesting of marine resources. Altogether, probably less than a dozen boats are owned by fishermen who are locally considered permanent residents.

The participation of residents of Unalaska in various commercial fisheries over time is reflected in the number of commercial fishery permits fished by residents as shown in Table 12 below. What is significant in this table is the decrease in the number of all types of crab permits fished by local residents. A corresponding increase in sablefish and other miscellaneous saltwater finfish permits fished by Unalaska residents, which might be expected with the expanding groundfish industry, has not materialized to any great extent.

Species	Year							
	1981	1982	1983	1984	1985	1986	1987	1988
Salmon	11	11	12	11	11	14	12	7
All Crab (Dungeness, King, Tanner, and other)	98	106	105	75	60	57	61	65
Shrimp	6	2	2	0	0	0	0	0
Herring	5	5	6	1	1	0	3	5
Sablefish	0	4	0	7	2	2	4	1
Halibut	17	14	30	28	16	15	23	13
Misc. Saltwater Finfish	16	19	11	10	11	4	12	19
Other/Unknown	1	5	0	0	0	1	2	0
Total	154	161	166	132	101	93	117	110

*1981-1985 data not verified with Entry Commission data.
Source: Data from Alaska Commercial Fisheries Entry Commission, cited from Northern Economics et al. 1990:250)

While the above table provides an idea of trends in commercial fishery permits fished for persons listing Unalaska as their place of residence, it does not reveal where the permit users actually fished or where the fish may have been processed. The economic implications of resident commercial fishing permit holders is unclear. It is certain, however, that the community does benefit substantially from the harvesting sector of the fishing industry. These benefits come in the form of fish tax for those fish that are landed in the community, real property tax for harvest support operations, and development of a significant general support sector. Table 13 presents information on the location of permits fished by individuals listing Unalaska as their place of residence. Again, however, this does not specify the location of the landing/processing of those resources, but some implications may be drawn from the information.

Area	Year							
	1981	1982	1983	1984	1985	1986	1987	1988
Aleutian/Peninsula								
Halibut	0	0	7	4	2	1	2	a
Herring	0	1	2	1	1	0	1	2
Sablefish	0	0	0	1	1	0	2	0
Other Finfish	2	1	0	0	1	0	1	0
Bering Sea								
Halibut	13	13	0	0	1	1	1	a
Sablefish	0	2	0	0	0	0	2	1
Other Finfish	4	8	5	2	3	1	8	9
Bristol Bay								
Herring	2	1	4	0	0	0	0	0
Dutch Harbor								
Halibut	4	1	17	23	12	15	18	a
Sablefish	0	2	0	5	1	0	3	7
Other Finfish	8	9	4	6	4	5	9	24
Other Areas/Other/Unidentified								
Halibut	0	0	6	1	1	0	5	a
Herring	3	4	0	0	0	0	1	4
Sablefish	0	0	0	1	0	2	4	0
Other Finfish	2	1	2	2	3	1	7	0
Other	1	5	0	0	0	1	5	6
Total	39	47	47	46	30	27	69	
* Not disclosed.								
Source: Data from Alaska Commercial Fisheries Entry Commission, cited from Northern Economics et al. 1990:252.								

Local employment in the harvesting sector of the commercial fishing industry within the Unalaska census area appears in Table 14. These numbers were estimated by multiplying the number of permits fished for residents of Unalaska by a crew factor. A crew factor is the average number of crew members used by a particular type of gear in a particular fishery. The crew factor used to construct this table was estimated by Thomas (1986) for the single year of 1985 and used for the entire 10 year time period because comparable crew factor estimates were not available for previous years (Northern Economics et al. 1990:254). Of course, this only provides a rough estimate of local employment in the harvesting sector. Again, it should be borne in mind that the primary economic benefits of the fishery to the community do not accrue through harvesting sector employment.

Type	Year							
	1981	1982	1983	1984	1985	1986	1987	1988 ^a
Salmon - Purse Seine	20	20	15	25	20	20	20	15
Salmon - Drift Gillnet	7	9	9	11	9	9	9	5
Salmon - Set Gillnet	2	2	6	0	0	2	2	0
King Crab	75	94	94	56	53	60	71	45
Tanner Crab	58	83	75	42	46	54	33	58
Dungeness & Other	3	3	6	9	9	6	18	18
Shrimp	13	7	4	0	0	0	0	7
Herring - Purse Seine	0	4	8	4	4	0	0	4
Herring - Gillnet	6	4	6	0	0	0	4	6
Sablefish	0	12	0	12	8	8	13	26
Halibut	47	73	73	99	52	65	77	
Other	4	13	0	0	0	2	11	4

^a Preliminary data
^b Not available

Source: Data from Alaska Commercial Fisheries Entry Commission, cited from Northern Economics et al. 1990:255)

Income to local residents from the harvesting sector can be estimated by looking at the ex-vessel value of seafood products sold by Unalaska resident permit holders. Table 15 below shows the ex-vessel value of seafood products sold by Unalaska permit holders. Significant in this table is that even with the downturn of the crab industry in the early 1980s, crab remains the major source of harvest sector income for local commercial fishermen (Northern Economics et al. 1990:255). In 1984, when the crab fishery was in decline, crab accounted for 42% of total harvest sector income for residents. In 1987, when crab harvests had declined even more, they still represented almost 90% of total ex-vessel value (due to the high price per pound value), although as noted above, the overall value has since been declining relative to groundfish. In short, while the groundfish industry represents by far the largest share of current harvesting efforts, local resident commercial fishermen still derive significant income from crab.

Species	Year							
	1981	1982	1983	1984	1985	1986	1987	1988 ^a
Salmon	0.4	0.5	0	0.8	0.2	0.1	0.1	0
Other Finfish	0.2	0.4	0.5	0.2	0.1	0.1	0.1	0
Crab	5.3	7.6	10.4	3.2	7.7	15.8	14.3	11.5
Other/Non-Disclosed	1.0	0.9	1.7	3.4	2.4	2.6	1.5	2.5
Total	6.9	9.4		7.6	10.4	18.6	16.0	

^aPreliminary data. ^bNot available.
Source: Data from Alaska Commercial Fisheries Entry Commission, 1989. Table adapted from Northern Economics et al. (1990:256).

Another way to look at the harvesting earnings is by the type of gear and size of vessels used. The following three tables (Tables 16 - 18), based on data from the Alaska Department of Fish and Game Commercial Fisheries Entry Commission records, show total number of individual permit holders, permits fished, pounds landed, and estimated gross earnings by species and vessel size.

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, longline vessel < 5 tons	3	3	NA	NA
Halibut, longline vessel ≥ 5 tons	8	8	>57,416	>\$84,574
Sablefish, longline (> 5 tons)	1	1	NA	NA
Dungeness Crab	1	1	NA	NA
King Crab, pots, Vessel ≤ 50'	1	1	NA	NA
King Crab, pots, vessel > 50'	15	15	>1,464,556	>\$4,588,020
Saltwater Finfish	2	2	NA	NA
Salmon, beach and purse seine	4	4	53,364	\$ 32,521
Salmon, drift gill net	6	6	NA	NA
Tanner Crab, pots, vessel ≤ 50'	1	1	NA	NA
Tanner Crab, pots, vessel > 50'	9	9	>2,307,082	>\$1,711,855
City Totals	25	53^c	5,325,158^c	\$7,665,551^c

^aTotal pounds harvested given as 5,325,158; number of pounds specifically accounted for is 4,175,321 (78.4%). Total value is \$7,665,551 of which \$6,127,307 (80%) is specifically accounted for.
^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does not double count individuals participating in more than one fishery.
^cThe city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.
Source: ADF&G, Commercial Fisheries Entry Commission 1989.

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, longline vessel < 5 tons	6	6	11,134	\$15,775
Halibut, longline vessel ≥ 5 tons	7	7	262,448	\$346,057
Sablefish, longline > 5 tons	3	3	NA	NA
Dungeness Crab, pots, vessel ≤ 50'	3	3	NA	NA
Herring, gill net	2	2	NA	NA
King Crab, pots, Vessel ≤ 50'	1	1	NA	NA
King Crab, pots, vessel > 50'	21	21	> 1,301,869	> \$4,263,538
Saltwater Finfish, longline < 5 tons	1	1	NA	NA
Saltwater Finfish, Otter trawl	4	4	> 15,427,203	NA
Saltwater Finfish, longline ≥ 5 tons	2	2	NA	NA
Salmon, beach and purse seine	4	4	89,359	\$ 69,737
Salmon, drift gill net	5	5	NA	NA
Salmon, set gill net	1	1	NA	NA
Tanner Crab, pots, vessel ≤ 50'	2	2	NA	NA
Tanner Crab, pots, vessel > 50'	10	10	> 2,599,985	> \$1,422,192
City Totals	37	73^c	25,229,159^c	NA

^aTotal pounds of harvest was 25,229,159; of this 19,399,095 (76.9%) was accounted for specifically. Total value of harvest was not estimated. Specific values add up to \$6,406,962.

^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does no double count individuals participating in more than one fishery.

^cThe city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.

Source: ADF&G, Commercial Fisheries Entry Commission 1989.

Species and Gear Type	# of Permit Holders ^b	Permits Fished	Pounds Caught	Est. Gross Earnings
Halibut, longline vessel <5 tons	5	5	13,298	NA
Halibut, longline vessel ≥5 tons	8	8	187,245	NA
Dungeness Crab, pots, vessel ≤50'	2	2	NA	NA
Herring, gill net	1	1	NA	NA
King Crab, pots, vessel >50'	16	16	>878,182	>\$3,136,170
Saltwater Finfish, longline <5 tons	3	3	NA	NA
Saltwater Finfish, Otter trawl	4	4	47,038,307	NA
Saltwater Finfish, longline ≥5 tons	1	1	NA	NA
Salmon, beach and purse seine	3	3	NA	NA
Salmon, drift gill net	2	2	NA	NA
Tanner Crab, pots, vessel ≤50'	8	8	50,950	\$111,071
Tanner Crab, pots, vessel >50'	11	11	>1,569,872	>\$1,323,416
City Totals	31	65^c	\$1,100,202^c	NA

^aTotal pounds of harvest was 51,737,854; of this 49,737,854 (97.3%) was accounted for specifically. Total value of harvest was not estimated. Specific values add up to \$4,570,657.

^bThis column counts individual permit holders (by ownership or transfer) who participate in a given fishery; column total does no double count individuals participating in more than one fishery.

^cThe city totals may be greater than the sum of each column because miscellaneous small gear categories which are included in the city total have not been broken out in this table.

Source: ADF&G, Commercial Fisheries Entry Commission 1989.

2. Processing

The processing sector burgeoned during the crab boom. From two small processors in the 1960s it has become a massive industry. By 1983 there were seven shore processors in town. Universal and Pan Alaska were the largest processors at the time, both with a capacity to run 1,000,000 pounds of crab per day, and each employed between 500 and 600 processing workers during the peak seasons.

Since the decline of the crab stocks, the processing sector of the fishing industry diversified into groundfish, with particular recent emphasis on surimi. This diversification has turned the once seasonal industry into a year round economic activity. In 1990, five processors were operating as shore plants in Unalaska: Alyeska Seafoods (located in the former Pan Alaska complex), East Point Seafoods, UniSea (the successor of Universal), and Aleutian Processors (the former Whitney Fidalgo facility) operate in the community on a year-round basis; Icicle Seafoods moors a floating processing facility in the community on a seasonal

basis. Westward Fisheries is in the process of constructing a major shore plant in the community as well. Operations of each of the processors is provided in sketch below.

There are indications, however, that Unalaska processing cycles may once again be going back toward pronounced seasonal peaks and valleys. As of January 1991, city of Unalaska officials were anticipating that local groundfish processing would last for approximately 20 weeks during the year. This figure was calculated by taking the total allowable catch and dividing by the capacities of the various processing sectors (that receive product from areas where Unalaska processors derive their product) both inside and outside of the community. It has been further estimated that during the first seven weeks of the year, that is by the third week of February, 34% of the years total catch will have been processed.

Employment levels in seafood processing for 1981 - 1988 appear in Table 19. Paradoxically, length of local residency of the workforce employed in seafood processing is inversely related to the vitality of the local industry in general. When the workforce was largest, there were virtually no local hires, particularly of long-term residents. For example, in 1982, at the height of processing capacity for king crab, there were no individuals identified as local residents working in the processing plants. There were a number of reasons cited for that fact at the time, including working conditions, pay rate, and work hours at the seafood plants that were attractive only to temporary transient workers. At that time, workers were hired out of the Pacific Northwest, typically Seattle, and were flown to Unalaska to work on a six-month contract basis. With the downturn in the crab fisheries, companies are no longer able to afford the expenses of a six-month contract system. Some have done away with such contracts and hire workers for an indefinite period of time with incentives for longevity; others hire more out of the Alaska labor pool than in the past. Several other factors influencing local hires in periods of fluctuation should be noted. First, under "boom" conditions there is a range of available employment options for local residents outside of the less appealing processing jobs. Second, when there is a downturn in hires at the local processing plants, virtually all of the workforce at the individual plants consists of returning workers, obviating the need for new hires. Even when six-month contracts were most common, there was always a core of returning workers. For example, in late 1990 UniSea had a number of processing employees celebrating their ten-year employment anniversaries, which spanned both the high and low employment periods. Third, setting the lack of long-term resident hires aside, Unalaska is seldom the "point of hire" for processing workers for individuals who are newly arrived to the community. That is to say, people do not come to Unalaska for processing work unless they have already secured a position. It is far too expensive to fly out to the community on the off chance they might gain employment, particularly at relatively low-paying jobs, especially given the fact that there is seldom housing available in the community and that which does come available is relatively expensive. Fourth, it should be noted that a lack of local hire does not apply to all positions with the seafood companies. Management positions at nearly all of the seafood companies (as well as with the major fisheries support sector companies) are occupied by individuals who, if not originally from the community, are at least long-time residents of the community or the region. In a number of ways, the processing industry is a "small circle" in terms of

managers, and individuals who have worked for more than one company and have gained ten to twenty years experience in the community and the region are not uncommon. Individual owners and, in the case of "permanently" moored floating processors, even the plants themselves may come and go, but individuals in upper level management positions tend to remain in the business and in the area.

According to Northern Economics et al. (1990:260) the "hire'em and fire'em" practices that were prevalent during the peak of the king crab fisheries when the fishery demanded full time work for relatively short periods of time are a thing of the past, and practices have shifted to identifying and hiring stable, long-term workers for work on rigidly controlled shifts. This is because groundfish processing and surimi production can provide year-round employment, though not at high wages. The following table shows employment specifically in the seafood processing sector of the economy. One can see from this table that following a decline in the mid-1980s, employment in the local seafood processing sector has climbed substantially.

Year	Annual Average Employment
1981	1,241
1982	893
1983	842
1984	616
1985	643
1986	731
1987	925
1988	931

Source: Alaska Department of Labor, 1989. Table adapted from Northern Economics et al. (1990:261).

The increase in local seafood processing employment does not appear significant from 1987 to 1988 (an increase of only six individuals). However, the reason for this apparently negligible increase is that the Unalaska census subarea was changed following the 1987 census such that over 200 employees at Akutan were not counted for the 1988 census although they were counted in the 1987 census (Northern Economics et al. 1990:261).

Annual payroll for the processing sector in Unalaska and average monthly wage are shown in the Table 20.

Year	Total Annual Payroll (millions)	Average Monthly Wage
1981	\$19.7	\$1,317
1982	\$14.9	\$1,379
1983	\$14.9	\$1,479
1984	\$13.6	\$1,850
1985	\$11.4	\$1,478
1986	\$13.9	\$1,618
1987	\$18.7	\$1,700
1988	\$21.0	\$1,886

Source: Alaska Department of Labor, 1989a. Table adapted from Northern Economics et al. (1990:262).

Processing operations vary from company to company. The following is a brief sketch of operations of each of the shore processors active in Unalaska in 1990.

Alyeska Seafoods was one of the two large processors operating in the community as of the fall of 1990. The facility currently operated by Alyeska was originally constructed and operated by Pan Alaska Seafoods which purchased the land at the head of the Unalaska spit from the owner of the adjacent Carl's Commercial property. Dates for the entry of Pan Alaska into Unalaska is variously given as 1962 (Northern Economics 1990:262) or 1964 (Impact Assessment 1983:104), but in any event, the Pan Alaska facility was the first shore processor within the city limits of Unalaska. Pan Alaska was taken over in 1975 by Castle-Cooke; the facility was sold to Alyeska, a joint venture with Japanese majority ownership, in late 1985. Today the Alyeska facility functions as two effectively separate operations: a seafood plant and a surimi plant. For the seafood side, common species run include crab, codfish, herring, halibut, and salmon, and processing capacity varies by species. The capacity for king crab is 400,000 pounds per day, 220,000 pounds per day for opilio, 300,000 pounds per day for bairdi. Up to 400,000 pounds of codfish can be run per day, but actual production depends on desired end product, as the facility produces salt cod, frozen split, and frozen round, as well as specialty products. Capacity for herring is approximately 200,000 pounds per day, and for halibut the figure is approximately 100,000 pounds per day. The surimi plant, on the other hand, handles only pollock and has a capacity of 500 metric tons per day. A recently completed (July, 1990) fish meal plant which handles waste product from the surimi plant has a capacity of 400 metric tons per day.

At the peak of operations, workforce size is limited by the amount of available bunkhouse space. During the period of January through March typically surimi, pollock roe, fish meal, bairdi, opilio, brown crab, salt cod, and black cod are all being run. Over 400 workers are required and are housed in bunkhouses on site, in newly constructed multi-unit dwellings

in the downtown area, and this year 70 individuals were housed on a barge in Captain's Bay. Average employment for the year, however, is closer to 250-275 persons, with an absolute low of between 180 and 200 at any one time. Workforce characteristics differ between the seafood and surimi operations in terms of worker turnover. It is estimated that between 95 and 100% of the surimi workers are returnees, whereas the seafood workers are largely one-time workers. This is attributed in large part to the fact that surimi plant conditions are more stable and operate on regular shifts, whereas seafoods side workers can work up to 18 hour days during the peaks.

The Alyeska operation has five boats³ that fish for the surimi operation on a regular basis, and this number will increase to six in the near future. During the roe season an additional four or five boats are added. Five or six codfish boats deliver regularly, whereas 14-15 crabbers are steady deliverers, although this fluctuates upward to approximately twenty. Black cod and halibut are purchased from boats "passing through," and herring is regularly delivered by only one or two boats. Salmon processed at the plant are normally tender overages from Bristol Bay, although Pink Salmon are purchased from a couple of local boats.

Over the period of 1989-1990, the Alyeska facility has seen significant investment. The fish meal plant was added, power supply was upgraded in terms of generation capacity and transmission, refrigeration facilities were added, the capacity of the surimi plant was nearly doubled, concrete staging pads and driveway areas were added, bunkhouse and apartment space was increased, a salmon line was added, and the crab line was improved. No further expansion is planned for the immediate future due, according to local management, to increased competition from factory trawlers, the construction of the new Westward plant in the community, and the increased capacity recently added to UniSea operations in the community.

UniSea, Inc., formerly known as Universal Seafoods, is a subsidiary of Nippon Suisan and owns a number of processing and support facilities in Unalaska. Universal Seafoods began local production on their Unisea barge in September, 1975. (In 1977 the company purchased the barge *Vita* from the seafood company of the same name, but following the decline of the crab industry in the 1980s, the *Vita* was sold and moved from the community.) UniSea differs from all of the other seafood companies in the community, due to its involvement in wide range of businesses that are not directly fisheries related, such as the UniSea Inn and Restaurant adjacent to the small boat harbor facility in Iliuliuk Harbor, and the Ballyhoo Restaurant at the airport. UniSea processing facilities are located on

³Interestingly, most of the boats that fish pollock for Alyeska, as well as some that fish pollock for UniSea, are converted oil rig supply boats. At the time offshore oil exploration was at its height locally in the early 1980s, there was a great deal of controversy over whether local and/or offshore oil operations would benefit the community through economic base diversification, or hurt the local economic base in the long run through conflict with the fisheries. That boats from the locally moribund oil industry should "live a second life" as primary participants in the most recent and largest attempt at fishery diversification to date is ironic.

Expedition Island in Iluliuk Harbor, and extend to the southwest corner of the harbor onto the main portion of Amaknak Island. These facilities encompass the former Pacific Pearl facilities on Expedition Island (which is in reality attached via an isthmus to Amaknak Island) that later became Greatland Seafoods (then a joint venture between Universal Seafoods and Nippon Suisan) before being incorporated directly into UniSea, as well as the former Universal Seafood facilities. Current UniSea facilities include the "G-1" surimi plant (the former Greatland Seafoods surimi plant, the first such plant in Unalaska when it opened in March, 1986), the "G-2" surimi and fish meal plant that began operations in August, 1990, and the barge *Unisea*, a floating processor that is permanently moored at the facility and that runs a variety of product.

The G-1 surimi plant has a capacity of 350 metric tons per day. The G-2 surimi and fish meal plant has a capacity of 800 metric tons per day, with the fish meal function being supplied with raw material from all three UniSea plant facilities. (In addition to surimi, G-1 and G-2 are capable of running a small amount of fillets on the side.) A converted liberty ship, the barge *Unisea* is set up as a flexible processing facility. It has a processing capacity of 300,000 pounds per day of pacific cod, 200,000 pounds per day of king or bairdi crab, and 150,000 pounds per day of opilio crab. Other products run on the barge include salmon and herring, and future plans include yellowfin sole and flatfish. Approximately 12 catcher boats deliver pollock on a regular basis to UniSea processing facilities, and these are in the 120' - 190' (200 - 430 metric ton) range. Approximately four codfish boats make regular deliveries as well. According to senior UniSea employees, in the past there were more boats than markets, but with the increases in processing capacity the situation is changing. UniSea also takes deliveries from transient longline halibut and black cod boats, and salmon from Bristol Bay is also processed when overages are available.

Workforce at the various UniSea shore facilities fluctuates with the product being run. The G-1 facility employs approximately 150 persons, and this number climbs to 200 during roe stripping. G-2 facility employs approximately 120 persons normally and 250 during roe stripping; the fish meal component of the plant employs approximately 15 persons on a steady basis. The barge *Unisea* employment figures fluctuate seasonally, but employs approximately 200 persons during king crab season. The peak for UniSea operations occurs during the first two to four months of the year, when opilio and cod are run on the barge and pollock and roe processing are taking place in the shore plants. UniSea is in the process of building its own power plant due to increased peak demand caused by the expanded shore facilities.

UniSea workers are hired on an hourly basis and receive increases based on length of service. In the past, workers were hired on a six-month contract basis. This change has occurred with the shift in emphasis on groundfish processing, making for year round operations. According to senior staff, because time contract hiring has ceased, workers now think of Unalaska as their place of residence rather than merely a place of employment. Employees now leave for vacations rather than leaving permanently after a brief employment period. Because of seasonal fluctuations in the level of activity at the various

facilities, management at the various facilities has been integrated. With the new management structure, workers within one area of operations may receive temporary assignment to another area of operation. For example, if a particular crab species processing season only lasts four to five days, new workers are not hired for this operation, but are merely assigned from other duties. UniSea is currently building a large bunkhouse facility to supplement existing housing. Existing housing includes 145 apartments or free-standing dwellings, 200 bunks on the barge *Unisea*, a 126 room bunkhouse on the beach that can hold three employees per room during peak periods but that normally holds two per room, 85 rooms at the G-1 facility that hold two employees per room, and 24 rooms in a bunkhouse for UniSea Inn employees.

In addition to the permanent shore facilities (and the barge *Unisea*, which should be considered a shore facility), floating processors use UniSea facilities seasonally. Dutch Harbor Seafoods, owned by the same parent company that owns UniSea, has two floating processors, the 190' *Galaxy* and the 330' *Omnisea* that tie up at Unalaska UniSea facilities for approximately half of the crab season. (One of the UniSea docks on the south side of Expedition Island is known as the "Galaxy dock" and is seasonal home to that vessel; another one of the UniSea docks is known as the "Viceroy dock" after another UniSea floating processor that formerly tied up seasonally as the *Omnisea* does now.) Both of these vessels process salmon and herring as well as crab, and seasonally may range from Southeast Alaska to the Pribilofs (where they commonly go for opilio). Both the *Galaxy* and the *Omnisea* are more-or-less self-contained operations, even when moored in Unalaska.

Beyond the very significant expansion of shore facilities in recent years, senior UniSea employees note a change in both the way UniSea does business in the community and the nature of the community itself over the past several years. As the fishery has become a year round operation with the expansion of the groundfish industry, the support services in the community have grown to the point where UniSea has been able to get out of the fishing fleet support business, for the most part, a business they never wanted to be in in the first place. They no longer are forced to facilitate outfitting, supplying, and maintaining catcher vessels as, for example, hydraulic and chandlery services previously unavailable are now available in the community, and with local supply prices coming down, UniSea itself is making more local purchases at businesses like the Delta Western supply facility. UniSea purposefully supports local businesses like Unalaska Building Supply, for example, to encourage further availability of materials. As the community has become more stable, it is no longer treated as "an outpost" by UniSea staff, and although housing has been considerably upgraded, some UniSea staff is still living in bunkhouses rather than in apartments. UniSea is actively encouraging employees with families to come to the community to further stabilize the workforce. Unalaska is now seen as a good place to settle and raise a family by a significant number of UniSea employees, particularly those in management positions, which is another indicator of the changing nature of the community and the seafood industry.

East Point Seafoods has been operating in the community since the king crab boom. In terms of continuity of ownership, as well as type of operation, it has been the most stable of the processors in the community over the past decade. Located on the point of land on Amaknak Island that defines the eastern entrance to Iliuliuk Harbor, the facility lies directly across the East Channel from the Alyeska facility. It is owned by a private individual from Washington state. The primary product of the facility is crab, although in the recent past some halibut was run. According to the superintendent, however, halibut will not be run again at the facility until a blast freezer system is installed. With a capacity of approximately 125,000 pounds per day for crab, the facility has approximately 10 vessels that fish for it regularly. There is some consideration being given to expanding into finfish, with gray and black cod and halibut being the primary species under consideration.

The East Point employment levels vary by fishing season. During 1990, approximately 85 individuals worked at the facility during the opilio season, which lasted from January through June, while approximately 50 and 40 persons were employed during bairdi and red crab seasons respectively. A skeleton crew of approximately 10 maintenance, repair, and administrative people were employed during the slack period that lasted from July through October 15th. Workers are flown up from Seattle, and are hired on a six-month contract basis. Workers are housed and fed on site, and with the completion of the new bunkhouse - now under construction -- housing will be available for a total of 120 workers. At present, additional shore buildings and land for storage areas are rented from the Ounalashka Corporation.

Sans Souchi Seafoods has been in Unalaska since 1984, and is unlike any of the other processing operations in the community. Operating out of a small building on Amaknak Island inland from the American President Lines shipping facility, it is a specialty operation providing special products that are packed on specification of its Japanese parent company. While a small amount of halibut was run in the past year (1990), it was economically unsuccessful due to a decline in the market, and only crab will be handled in the coming year. The primary species run are Blue King, Red King, bairdi, and opilio, with smaller amounts of Dungeness and Hair crab. All of the product is shipped to Japan, and the emphasis is on high quality of finished product. Every crab is hand washed and hand packed. The plant does not have direct waterfront access, and processing operations are weather dependent. When the weather is too warm the sea water in the live tanks rises above optimum range.

The capacity of the Sans Souchi plant is small compared to other operations in the community. Approximately 100,000 pounds of opilio or 80,000 pounds of bairdi can be processed in a week; the weekly capacity for Blues and Reds are approximately 50,000 pounds each. During 1990 the plant was open all year, and employs approximately 20 people on a steady basis when operating at full capacity, supplemented with up to eight temporaries hired on a one to two day basis. Approximately 12 persons are employed during slack periods, which during 1990 occurred from May through September; activity then peaked for 2 weeks before going down again until November. Sans Souchi is unique in the

community not only in terms of specialty product, but also for hiring practices. The point of hire for all employees is Unalaska. As the company "can't afford to fly people out [to Unalaska] and then have them quit," potential employees can check each morning for the availability of work. Up to 22 workers can be housed on site in company trailers, and although there are no other bunkhouse facilities, laundry and food service is available to workers.

Aleutian Processors, an American owned company, has operated out of a permanently moored floating processor on the northern Amaknak Island side of Iliuliuk Harbor since early 1986. Named the *Royal Aleutian*, this ship was formerly named the *Whitney* when operated by its previous owner (in the same location), Whitney Fidalgo Seafoods. As the *Whitney*, production capacity for crab was approximately 80,000 pounds per day. Although plans in 1986 called for the *Royal Aleutian* to be outfitted to become self-propelled, this work was not done, and the ship remains permanently moored. Various species of crab are the primary product of Aleutian Processors, with opilio, reds, browns, blues, bairdi, and dungeness among the species processed. Some groundfish is processed as well, and non-crab products run in recent years include cod, halibut, snapper, and turbot.

Size of the workforce at Aleutian Processors varies during the yearly cycle. During the past year, peak employment occurred during the opilio season with 138 workers. Due to it being a slow year overall, lay-offs occurred twice, once in March and once in July. After the second lay-off the workforce was down to 38 employees. During the slow season, workers are housed aboard the *Royal Aleutian* itself, while during peak season shore bunkhouse facilities are utilized. Workers are hired on a six-month contract basis, and the point of hire for an estimated 90% of the workforce is Seattle, although many of those individuals are actually from California. Very few individuals are hired locally, as past experience has not worked out well. In the experience of local management, "local hires are most often looking for a meal and a bed until they can find something better." January contract employees are only approximately 50% returnees, but when the workforce is lower during the slow periods, virtually all the employees are returnees from previous years. Normally six crab boats and three small cod boats fish for Aleutian Processors. During opilio season, however, delivery is taken from many more boats that "show up at the door."

Icicle Seafoods has been operating in Unalaska since the fall of 1987. Processing activities take place aboard a floating processor that moors seasonally at the "pot dock" at the extreme northern end of Dutch Harbor itself. (Adjacent to the Delta Western facility on Amaknak Island, this pot dock was known as the "Exxon dock" when it was used by that company during the oil exploration of the early 1980s.) In 1990, Icicle used the floater *Arctic Star* for its Unalaska operations, while in previous years, according to Northern Economics (1990:268) the floater *Bering Star* was used. The fact that the operation is only physically present in the community a portion of the year differentiates it from all of the other Unalaska processors. From the period of June through August, the *Arctic Star* goes to Bristol Bay for the salmon season, and spends the balance of the year in Unalaska. The months of August through November in Unalaska are inactive ones for the processor and

work focuses on maintenance and repair; from November through June product is run at the facility. During the inactive period, Icicle employs approximately seven people at the facility; approximately 125 individuals are employed during the active season. Housing for workers is provided aboard the ship. Workers are hired primarily out of Seattle, although others come from Alaska. Little hiring from the community is done as, according to the superintendent, the tight housing in the community acts as a strong limiting factor on the local labor pool. Persons seeking employment cannot just come to Unalaska to "hang out" and look for work, as there is no place to stay. Further, it is simply too expensive to fly to the community just on the hopes of landing a job.

The *Arctic Star*, while in Unalaska, runs primarily crab as product, although small amounts of bait herring are run as well. In its current configuration with two crab lines, the vessel has the capacity to produce 250,000 pounds of finished product per day. Icicle is in the process of constructing a shore warehouse, but has no shore facilities at present. Warehouse space is currently rented from both the Ounalashka Corporation and Delta Western. While Icicle has large surimi operations elsewhere, company management has decided against locating such a facility in Unalaska at present, due to the high capacity of competitors' existing plants. Icicle has 38 catcher boats that are the primary source of its deliveries, although deliveries are accepted from transient vessels as well.

Westward Fisheries, the latest arrival among the seafood processors in Unalaska, is currently (late 1990) constructing a large shore based facility. Located on the eastern shore of Captain's Bay on Unalaska Island north of the Crowley Maritime facility (that is, closer to town), the Westward site was formerly occupied and operated by Northern Offshore, a subsidiary of Underwater Construction, as an offshore support facility. (Prior to its purchase by Northern Offshore, the dock and adjacent land was owned by Pan Alaska fisheries. The dock was known as the "Pan Alaska pot dock," and the land was used primarily for crab pot storage.) When the construction of the new facility began in October of 1989, the Royal Dutch Inn, which had been operated as a public hotel at the site since April, 1987, was converted to offices and housing for construction crews. When operating, the facility is projected to employ a labor force of 250-300 workers. Housing at site can accommodate 266 individuals between the hotel and 3 bunkhouses. The bunkhouses are set up in the manner of apartments, with living, bed, and bath areas for each unit. The site also has ten townhouses for senior staff, as well as one detached home.

The focus of operations for Westward will be surimi. Buildings under construction include a surimi plant, a fish meal plant, and a cold storage facility. Construction is both shore based and extends into the bay, encompassing and expanding the existing dock facility. The first product is expected to be run when the crab line opens in early December, 1990. The surimi plant is scheduled to open sometime in February or March of 1991. As of September, 1990, there were approximately 200 workers employed on the site, comprised of 44 Westward employees and 156 construction and rigging subcontractor personnel.

3. Fishery Support Industry

There are a number of small scale businesses in Unalaska that, while not involved with fishing themselves, are directly related to the fisheries sector of the economy. These include: a local bank branch, cab companies, construction companies, and marine supply companies. Large scale local entrepreneurial efforts are spearheaded by the major local retailers including Carl's Commercial and Alaska Commercial, among others. All of these businesses act in one way or another as support for the fishing industry and are, in turn, dependent upon the fishing industry for their vitality. Unalaska has had some contact with oil companies, but overall interactions have been minimal following a brief period of intense activity associated with offshore exploration in the early 1980s. The support facilities generated by oil related demand, however, continue to be utilized and have provided a model for subsequent fisheries support facilities. The early 1980s also saw the beginning of the diversification in fleet support services within the community. This included creation or expansion of such services as a vessel haul-out and repair facility, fuel services, supply and refitting services, and provisioning services which have subsequently grown in their importance to the local economy since the commercial fishery has become truly year-round.

Dock facilities are a focus of fishery support activity in the community. While the community has four primary harbors providing anchorages (Iliuliuk Bay and Iliuliuk Harbor, which are defined by narrows between Unalaska and Amaknak Islands within Unalaska Bay, Dutch Harbor, which is defined by a mile-long spit and Rocky Point on Amaknak Island, and Captain's Bay, which is defined by the southern most extension of Unalaska Bay and the southern end of Amaknak Island known as "Little South America"), both fishing vessels and catcher/processors or processing ships need to utilize dock facilities to operate effectively.

Fishing vessels use docks for three primary purposes: the unloading of product, servicing of vessels, and moorage (Northern Economics 1990:258). Processors provide dock facilities for unloading vessels that deliver to them, or in the case of moored floating processors, product is delivered "over the side." Catcher/processors and processing ships can off-load packaged product to tramp steamers at sea or in other protected waters, but they often off-load in Unalaska. The two preferred facilities for this are the American President Lines dock, which is operated by that shipper, and the City of Unalaska owned Ballyhoo Dock (marketed as the International Port of Dutch Harbor) which is the primary base of operations for the other major shipper in the community, SeaLand. Fuel sales by Petro Marine are available at the Ballyhoo Dock (and will soon be offered there by Delta Western as well.) A number of services are not available at the processor or shipping docks, however, and to fill this gap specialty service docks have grown in popularity in the past few years. The origin of the current service dock concept in Unalaska can be traced to the beginning of construction of an oil exploration support dock facility in 1982 in Captains Bay (to service ARCO, the managing partner in a seventeen company consortium, and operated by Offshore Systems, Inc.) and to the somewhat later diversification of SeaAlaska (formerly a processing facility) which became a support facility after its purchase by ConAgra. While

the Offshore Systems facility virtually shut down during 1986 with the withdrawal of oil company presence from the community, it has since rebounded with fisheries support business; the SeaAlaska facility was subsequently purchased and continues to be operated by Delta Western. The need for and utilization of such services had rapidly expanded over the past four years. The evolution of the service dock has been summarized by Northern Economics (1990:259):

In the early 1980s vessels would deliver to a processor, then move to the fuel dock, then move to another dock where they could tie up for a period of a few hours to a few days as they replenished and made needed repairs. Since some services required dockside access and boats were often rafted 3 to 4 boats deep, delays were frequent. The present service dock concept attempts to improve efficiency by providing multiple services during the time that the vessel is at the dock face. Vessels are placed on a waiting list for fuel to prevent congestion at the dock and during the time they are refueling (typically 5-8 hours) they use the other services that are located at the dock.

There are three main service dock and associated facility complexes, a relatively new type of business, in Unalaska today. These are the Offshore Systems, Inc., Crowley Maritime, and Delta Western facilities. Operations of each of these facilities will be considered in turn.

Offshore Systems, Inc. (OSI) owns and operates a facility built on leased Native Allotment land on the eastern shore in the south of Captain's Bay, opened in 1983 but only got into "full swing" in 1984. At its inception, it was exclusively an oil support facility. Since that time, the oil business dried up, and by 1986 there were only two caretaker employees assigned to the site. With the increase in groundfishing in the area, however, the facility geared up again in 1988 to support the fishing fleet. In addition to the dock facilities, OSI offered a number of services for crab boats, such as pot storage, yard storage, warehousing, and fuel services. In late 1988 - early 1989, the facility began to orient itself toward another facet of the fishery, support of factory trawlers. According to the facility manager, this was initially the result of overflow business from the Delta Western facility that could not handle all of the trawlers and gear that was coming into the community. At the present, the facility services all of the fleets that operate out of Unalaska, with the exception of transient small longliners. One of the primary customers of the facility is the Arctic Alaska fleet, of which 26-28 vessels call on the facility. This fleet is multi-fishery in nature and converts gear for all kinds of crab fishing as well as longline traditional hook and cod pot type of rigs. To facilitate these gear changes, shelter decks and gear are stored at the OSI facility. While Arctic Alaska is the major tenant of the OSI facility and used to account for 80% of the fuel sales at the dock, it now accounts for only 40% of fuel sales, in spite of the fact that Arctic Alaska's volume has increased. This relative drop in sales is a result of even faster rates of increase in sales to other customers. The current success of the facility is credited to the fact that it can service all of the needs of the factory trawler fleets. There are 35 secure

warehouse spaces on the premises, and while factory trawlers stop to off-load product, they can take on fuel, potable water, and bulk and drum lubricants. A 36-room, 64-man camp is available for crew changes or other bunking needs, and meal service is available. Also available at the facility are light and heavy cranes, a van loading dock, diesel and hydraulic support, and a North Pacific Ship Supply store. Warehouse facilities encompass the dock areas, and so provide a more convenient facility than the City's Ballyhoo Dock.

OSI is no longer pursuing new customers, as the facility is operating to capacity with the current level of business. Under construction is a new 600' dock that will allow factory trawlers and freighters to tie up to the same dock simultaneously, speeding up the off-loading process. Existing docks at the facility include a 469' dock (the "450' dock") that can handle two 190' vessels safely, the "south dock" with a 57' face with dolphins that can handle 300' vessels, and the "north dock" with a 20' face that can handle vessels between 160' and 210-215.' The new dock will encompass the existing 29' face "crane dock" and the 100' face "main dock." Existing warehouse facilities include approximately 105,000 square feet of area spread over four buildings. There is also 5,000 square feet of cold storage on the site, 1/2 of which is leased to Arctic Alaska on a long-term basis. Fuel storage capacity at the site is 1.7 million gallons, and at present the entire capacity is turned over approximately 1/2 times per month. Office space is available at the site as well, and several of the larger seafood company customers of the facility maintain offices on site to facilitate ship turnaround. OSI typically employs approximately 25 workers at the site, but during dock construction the figure is slightly higher. Bunkhouse, hotel, and galley services are provided by a subcontractor.

Crowley Maritime also operates a dock-based vessel support facility in Captain's Bay. Like OSI, it is located on the eastern shore of the bay, but further north toward town. Originally a cannery site, Crowley has owned the facility since 1976. It is operated by a division of Crowley, Pacific Alaska Fuel Services, Inc. The original purpose of the facility was as a resupply and transfer point for sealifts to the North Slope and supply of the western portion of the state. In 1987, however, Crowley officials recognized the developing market for fisheries support as the only commercial non-seafood operating dock in the community. Initially upon entering the fisheries market, the facility catered to crab boats and offered pot storage. Over the last two years improvements were made to the site in the form of dock extension (it is now 520' long), increased warehouse space (currently at 70,000 square feet), and increase power generation capacity. Recently, the focus of the support operations at the facility have turned away from crabbers and toward factory trawlers after attempts to service both types of fleets. Conflicts were inherent between the two as, due to the nature of the fishery, crab boats would "wait until the last minute and then all want the facility at the same time," which made for uneconomic use. On the other hand, factory trawlers use 10-15 times the fuel crabbers do, and require more shoreside facilities. As a result, the Crowley facility only has 4 or 5 crab boats now as regular customers, with the balance of the regular customers being 10 or so factory trawlers. At present there is some freight transfer business done at the facility that is not fishery related, but according to the facility manager

90% of the business is directly fishery related. Of the fishery-related business, 90% of that is composed of services to factory trawlers.

Crowley operates its facility conservatively in terms of expansion. It is one of the few significant property owners in the community, outside of the Ounalashka Corporation, and so does not have the overhead of other companies that have to factor in leasing costs to their operations. In fact, Crowley owns the largest tract of flat land in the community other than Ounalashka lands. According to the facility manager, Crowley is aware of the inevitably fluctuating nature of the fisheries, and so "didn't cover the area with warehouses, and didn't go overboard with dock expansion." Existing warehouse space is currently 100% utilized. Crowley offers fuel, water, and solid waste disposal to its customers, along with warehouse space and stevedore service. Fuel storage capacity on site is 2.6 million gallons. Crowley also owns the Captain's Bay Lodge on site, which is leased to an independent operator, Boatel. This 70 bed capacity facility is available for crew changes, and is open to the public as well. Other tenants offering services on site include a cable and hardware shop and Magone Marine services (marine repair and fabrications). Office space is leased by fleet owners and logistics coordinators. Pacific Alaska Fuel employs 12 individuals on a year round basis, and in addition to bunkhouse style housing, has three residential family units on site; only one employee lives in town, the rest live on site. While no large expansion is planned at present, basic improvements to existing facilities are scheduled, including adding dolphins and a fendering system to the dock and upgrading the housing on site.

Delta Western is the largest of the "full service" dock based support facilities in the community. Delta Western owns two separate dock facilities in the community. One is the community's main fuel dock, commonly known as the "Standard Oil Dock" after its long-time owner, or the "Chevron Dock" after its next owner from whom Delta Western purchased the facility in April, 1986. Located on Amaknak Island west of Rocky Point and extending into Dutch Harbor itself, the 385' fuel dock supports fuel barge services to Delta Western facilities in western Alaska, including product exchange, where different mixes of products are shipped to various communities. The fuel dock is the only "mixed facility" in the community, and has a storage capacity of approximately 9.5 million gallons of diesel fuel, 1.2 million gallons of jet A-50 fuel, 1 million gallons of unleaded gasoline, and 600,000 gallons of AV-100 low lead fuel. When a current addition is completed, the facility will have an additional 3.5 million gallons of storage capacity.

The second Delta Western facility, the former SeaAlaska facility on Amaknak Island near the head of Dutch Harbor, was acquired by the company in November, 1986. Unlike the "Standard Oil Dock" which offers little other than fuel sales, this facility is a "full service facility" along the lines of the OSI and Crowley facilities and, in fact, its former owner offered the first such range of services to the fishing fleet locally. At present, the facility includes fuel services, van loading wells, an Alaska Ship Supply store, marine hardware, groceries, warehousing, dry storage, wet storage, a cable shop, and trawl repair. A 54-person guest house provides lodging for crew changes, and is open to the general public as well.

Other businesses or agencies renting space at the facility include: Harris Electric, Lunde Marine, U.S. Customs Service, a travel agency, and Trident Seafoods which rents dock and building space as a support facility for its Akutan processing operations. The Island Cafe and Bakery rents space at the site as well, and is open to the public. Unlike the facilities at Crowley and OSI, the store and restaurant at the Delta Western facility attract a significant amount of business from the general public of the community. The dock facility is operated on the same principal as the OSI and Crowley facilities: it is a one stop service center as, for the factory trawler specifically and the fishing fleet in general, time is critical and when every hour in port counts as expensive "down time" skippers do not want to have to go to several docks. Existing dock facilities at the site have between 450' and 460' of face, and when a new dock under construction is completed, the facility will have over 1,000' of dock. Like the other two full service facilities, the Delta Western facility acts as a north-south terminal for the fishing/transportation fleets, with product moving southbound and resupply materials moving northbound. The goal of the facility is to optimize the efficiency of the terminal to speed product movement and minimize fleet in-port time.

4. Fisheries and Other Employment

The relationship of fishery and support services to other types of employment may be gleaned from the following information. The employment pictures for Unalaska for the years 1967, 1976, and 1980 are presented in Tables 21 - 25 below. Unfortunately, no more recent community employment data is available in this detail, but the trends over the span shown portray the growth of the community as a prime commercial fishing port. These tables clearly indicate that the commercial economy of Unalaska has been dominated by fisheries and fisheries-related activities for quite some time. Most of the non-fisheries activity functions either directly or indirectly as support for the fishing industry.

Industry	Employment			Percent
	Basic ¹	Service ²	Total	
Fishing	140	0	140	43.3
Fish Processing	150	0	150	46.4
Transportation, Communications and Utilities	7	4	11	3.4
Retail Trade	0	12	12	3.7
Government	2	8	10	3.1
Total	299	24	323	100.0

¹ Employment generated by export industries and other sources of outside money.
² Employment depending upon money circulating within the community.

Industry	Number	Percent	Percent Basic	Basic Number	Secondary Number
Fishing	44	4.4	100	44	0
Mining	2	0.2	100	2	0
Contract Construction	0	0.0	--	--	--
Manufacture ²	815	82.4	100	815	0
Transportation, Communication, & Public Utilities	16	1.6	37	6	10
Trade	29	2.9	21	6	23
Finance, Insurance, & Real Estate	1	0.1	0	0	1
Service	25	2.5	0	0	25
Government	57	5.7	3.5	2	55
Federal	(18)	(1.8)	(0)	(0)	(18)
State	(3)	(0.3)	(67)	(2)	(1)
Local	(36)	(3.6)	(0)	(0)	(36)
Total	989	100.0	89	875	114

¹ This table shows the average annual total employment in Unalaska by industry type for the year 1976 and the portion of the economy which is basic and secondary. The table is based on Alaska Department of Labor data, plus some fairly extensive field work by the consultant (Tryck, Nyman and Hayes) to arrive at the "true" employment picture in Unalaska. The Department of Labor data has some acknowledged shortcomings, such as not covering self-employed individuals and making only estimates of State and local government employment.

² Includes seafood processing.

Source: Tryck, Nyman and Hayes (1977).

Table 23
Average Annual Full-Time Employment*
Unalaska, 1980

Industry	Number	Percent	Percent Basic	Basic Number	Secondary Number
Agriculture, Forestry & Fishing	150	9.4	100	150	0
Mining	2	0.1	100	2	0
Contract Construction	12	0.8	42	5	7
Manufacturing	1,166	72.9	100	1,166	0
Transportation, Communication, & Public Utilities	57	3.6	60	34	23
Trade	60	3.8	60	32	28
Finance, Insurance, & Real Estate	27	1.7	74	20	7
Service	44	2.8	61	27	17
Government	82	5.1	7	6	76
Federal	(9)	(0.6)	(44)	(4)	(5)
State	(10)	(0.6)	(20)	(2)	(8)
Local	(64)	(4.0)	(0)	(0)	(64)
Total	1,600	100.0	90	1,442	158

Note: Figures include self-employed persons and military personnel.

Source: Alaska Consultants, Inc., May 1981.

Table 24
Distribution of Employment by Sector
State of Alaska and City of Unalaska, 1980

Industry	State of Alaska	City of Unalaska
Agriculture, Forestry and Fishing	0.3%	9.4%
Mining	3.9%	0.1%
Contract Construction	6.3%	0.8%
Manufacturing	8.2%	72.9%
Transportation, Communication & Public Utilities	10.0%	3.6%
Trade	17.3%	3.8%
Finance, Insurance & Real Estate	4.5%	1.7%
Service	17.5%	2.8%
Government	31.8%	5.1%
Federal	(10.4)	(0.6)
State	(9.0)	(0.6)
Local	(12.3)	(4.0)
Total	100.0	100.0

Note: State of Alaska data cover civilian non-agricultural wage and salary employment only; City of Unalaska data include self-employed and military personnel.

Sources: Alaska Department of Labor, Statistical Quarterly for State of Alaska data. Alaska Consultants, Inc., 1981, for City of Unalaska data.

Table 25 Selected Labor Force Data Unalaska, 1980					
Labor Force Status, Persons Over 16 Years, 1980					
Labor Force Status	Alaska Natives		All Races		Total
	Male	Female	Male	Female	
Armed Forces	0	0	0	3	3
Civilian Employed	61	26	718	285	1,003
Civilian Unemployed	21	0	25	5	30
Not in Labor Force	17	24	26	81	107
Labor Force Participation Rate	82.0%	52.0%	96.0%	78.0%	90.0%
Unemployment Rate: 1980	25.6%	0%	3.4%	1.7%	2.9%
1970	*	*	0%	0%	0%

Employment by Industry, 1970 AND 1980			
Industry	1970	1980	
Construction	0	25	
Manufacturing	18	630	
Transportation	0	47	
Communications	5	3	
Trade	16	80	
Finance, Insurance, Real Estate	0	20	
Services	7	76	
Public Administration	0	52	
Other	13	70	
Total	59	1,003	
* Data missing or suppressed.			
Source: U.S. Census, 1980.			

C. Public Fiscal Characteristics

Public fiscal characteristics are an indicator of the how cities make their money and how they spend it. Table 26 below presents revenues and expenditures for 1986 - 1989. City tax revenue figures can be used as a gauge of the economic vitality of a community. For example, sales and use tax revenues reflect economic activity in private businesses. Table 27 shows revenues from sales and use tax and fish tax for various years. Significant in this table is the parallel between increases and decreases in revenues and increases and decreases in the prosperity of the fishing and fish processing industries. Note particularly the enormous increases in fish tax revenues to the city over the four year period from 1987 to 1990.

Revenues & Expenditures	1986	1987	1988	1989
Revenues:				
Taxes	\$2,358,433	2,699,290	3,633,485	6,787,501
Intergovernmental	1,052,130	1,398,085	1,259,680	1,715,489
Other	504,036	373,458	461,911	801,576
<i>Total revenues</i>	3,914,599	4,470,833	5,355,076	9,304,566
Expenditures:				
General government	672,895	651,139	764,562	1,039,836
Planning and zoning	76,787	60,143	94,278	78,019
Public safety	838,550	806,703	1,046,788	1,290,766
Public works	941,179	1,146,086	1,175,720	1,446,144
Culture and recreation	347,153	362,126	460,311	380,359
Ports and harbor/capital outlay ^a	0	0	0	0
Health clinic	5,098	6,760	7,505	7,491
School support	0	0	0	0
Non-departmental	287,489	401,831	253,838	521,692
<i>Total expenditures</i>	3,169,151	3,434,788	3,803,002	4,764,307
Excess (deficiency) of revenues over expenditures	745,448	1,036,045	1,552,074	4,540,259
Other financing sources (uses):				
Operating transfers in	58,552	0	117,000	117,000
Operating transfers out	(45,914)	364,524	783,807	1,574,553
Net transfers	12,638	364,524	666,807	1,457,553
Excess (deficiency) of revenues and other financing sources over expenditures and other financing uses	758,086	671,521	885,267	3,082,706
Fund balance, July 1	1,534,548	2,292,634	2,964,155	3,861,903
Decrease in reserve for inventory	0	0	0	0
Residual equity transfer	0	0	12,481	0
Fund balance, June 30	2,292,634	2,964,155	3,861,903	6,944,609
^a Private financing for a 730' addition to the city (Ballyhoo) dock has been obtained, and construction is scheduled to begin in the Spring of 1991. Source: City of Unalaska, personal communication.				

Year	Sales and Use Tax Collected	Raw Fish Tax Collected	Total
1980	1,117,654	0	1,117,654
1981	1,312,538	0	1,312,538
1982	1,096,023	0	1,096,023
1983	775,790	0	775,790
1984	706,375	0	706,375
1985	1,067,422	0	1,067,422
1986	1,388,527	0	1,388,527
1987 ^a	1,294,958	416,889	1,711,847
1988	1,763,353	703,183	2,466,536
1989 ^b	3,260,233	2,393,725	5,653,958
1990 ^c	4,929,883	2,148,858	7,078,741

^a Sales and use tax rate increased from 1% to 2%; Raw fish tax instituted at 1%.

^b Sales and use tax rate increased from 2% to 3% (effective October 1988); Raw fish tax increased from 1% to 2%.

^c 1990 figures are unaudited.

Source: City of Unalaska

The following three tables (Tables 28 - 30) show the history of revenues for the city of Unalaska from real property, personal, and combined taxes from 1971-1990. Except for a slight dip in 1989, real property taxes have increased steadily over this period. Personal property taxes have shown more fluctuation, but the tax amount over the period has increased by nearly 800%. Combined tax amounts show a rate of variation between the two, but with an increase greater than 20-fold over the period.

**Table 28
Real Property Taxes
Unalaska, 1971-1990**

Fiscal Year	Mil Rate	Real Property Tax Amount	Appraised Value
1971	0.0081	6,969.29	860,406.00 ^a
1972	0.0135	9,410.00	697,037.04 ^a
1973	0.019	14,766.00	777,157.89 ^a
1974	0.019	14,766.00	777,157.89 ^a
1975	0.0175	14,766.00	843,771.43 ^a
1976	0.0175	57,738.00	3,299,314.29 ^a
1977	0.0175	72,185.00	4,124,857.14 ^a
1978	0.014	109,043.00	7,788,785.71 ^a
1979	0.014	150,675.00	10,762,500.00 ^a
1980	0.014	223,136.00	10,762,500.00 ^a
1981	0.013	365,479.00	28,113,769.23
1982	0.01257	457,551.00	36,400,238.66
1983	0.01257	571,624.00	45,475,258.55
1984	0.01257	628,547.00	50,003,739.06
1985	0.01257	664,132.00	52,834,685.76
1986	0.012214	670,757.00	54,917,062.39
1987	0.01278	691,115.00	54,077,856.03
1988	0.01278	712,498.00	55,751,017.21
1989	0.01278	700,829.00	54,837,949.93
1990 ^c	0.01278	911,691.76	71,337,383.42

^a Combined in F/S ^b Per F/S ^c Unaudited
Source: City of Unalaska

Table 29 Personal Property Taxes Unalaska, 1971-1990			
Fiscal Year	Mil Rate	Real Property Tax Amount	Appraised Value
1971	0.00810	63,168.78	7,798,614.81
1972	0.01350	45,259.00	3,352,518.52
1973	0.019	56,449.00	2,971,000.00
1974	0.019	106,977.00	5,630,368.42
1975	0.0175	80,339.00	4,590,800.00
1976	0.0175	64,416.00	3,680,914.29
1977	0.0175	171,133.00	9,779,028.57
1978	0.014	180,959.00	12,925,642.86
1979	0.014	190,948.00	13,639,142.86
1980	0.014	228,138.00	16,295,571.43
1981	0.013	443,551.00	34,119,307.69
1982	0.01257	450,463.00	35,836,356.40
1983	0.01257	371,957.00	29,590,851.23
1984	0.01257	451,828.00	35,944,948.29
1985	0.01257	318,530.00	25,340,493.24
1986	0.012214	364,658.00	29,855,739.32
1987	0.01278	289,498.00	22,652,425.67
1988	0.01278	432,643.00	33,853,129.89
1989	0.01278	432,714.00	33,858,685.45
1990 ^a	0.01278	501,053.27	39,206,046.17

^aUnaudited
Source: City of Unalaska

Fiscal Year	Mill Rate	Real Property Tax Amount	Appraised Value
1971	0.00810	70,138.07	8,659,020.81
1972	0.01350	54,669.00	4,049,555.56
1973	0.019	71,215.00	3,748,157.89
1974	0.019	121,743.00	6,407,526.32
1975	0.0175	95,105.00	5,434,571.43
1976	0.0175	122,154.00	6,980,228.57
1977	0.0175	243,318.00	13,903,885.71
1978	0.014	290,002.00	20,714,428.57
1979	0.014	341,623.00	24,401,642.86
1980	0.014	451,274.00	32,233,857.14
1981	0.013	809,030.00	62,233,076.92
1982	0.01257	908,014.00	72,236,595.07
1983	0.01257	943,581.00	75,066,109.79
1984	0.01257	1,080,375.00	85,948,687.35
1985	0.01257	982,662.00	78,175,179.00
1986	0.012214	1,035,415.00	84,772,801.70
1987	0.01278	980,613.00	76,730,281.69
1988	0.01278	1,145,141.00	89,604,147.10
1989	0.01278	1,133,543.00	88,696,635.37
1990 ^a	0.01278	1,412,745.00	110,543,429.58

^aUnaudited
Source: City of Unalaska

D. Infrastructure

1. Electricity

The seafood processing industry generates and consumes the vast majority of the power on Unalaska and Amaknak Islands. In 1978, the processors accounted for 12.250 megawatts of installed generation capacity with a peak non-coincidental demand of 7.46 megawatts (Rutherford Associates 1979:28). Each processor individually generates electricity to satisfy its own specific load requirements, which generally consist of the processing plant and housing facilities (IAI 1987:65). The city provides power generation from a 4.1 megawatt diesel generating plant, and an additional 3 megawatt generator has been proposed. Peak consumption for 1990 is reported to be 2.7 megawatts (Northern Economics et al. 1990:248). With recent changes in the nature of local processing, demand for electricity has changed as well. Increases in electrical capacity needs have been significant with the construction

of fishmeal plants in the community. Both of the companies that have added fishmeal plants to existing operations (Alyeska Seafoods and UniSea, Inc.) have increased their generation capacity, and all companies that have fishmeal plants (Alyeska, UniSea, and Westward Fisheries) have supplemented their ability to produce electricity through the use of fish oil (a processing product) as a fuel for energy generation.

2. Fuel

The present storage capacity for diesel, gasoline, and aviation fuel is 21.9 million gallons. This fuel is distributed by four companies to the marine fishing fleet as well as supplying fuel to western Alaska (Northern Economics et al. 1990:248). Fuel is also distributed locally for onshore use for the local generation of electricity, and use for heating in homes and businesses, and so on. In 1989, according to city figures, a total of 80 million gallons of fuel were sold locally.

3. Solid Waste

The city operates a ten acre landfill which is barely adequate to meet the expanding city needs. Requirements of marine waste disposal set forth by MARPOL V could make landfill expansion inevitable. Williwaw services provides trash pickup at an average rate of \$11.25 per month an industrial rates are \$125 per 150 yard container (Northern Economics et al. 1990:248).

4. Water and Sewer

The city of Unalaska provides water and sewer services to the community but the coverage is not complete, and until very recently the majority of the system relied on a base system built nearly 50 years ago for the military. The water system, which relied on a wood stave pipe system built during World War II, had experienced extreme leakage problems in recent years, and the system is in the process of being upgraded. By the end of 1991 it is expected that a total of 35,000 feet of wood stave water pipe will have been replaced. This has been a phased replacement using equal state and local funds. In 1989 (phase I) \$2.5 million was obtained from the state, and in 1990 (phase II) \$1 million was obtained from the state, for a total of \$3.5 million over that two year period. State monies were matched with local funds, for a total investment of \$7 million in the system. For 1991, \$1.25 million has been requested from the state for the third phase of a four phase project. Phase III will allow the completion of the replacement of all of the main lines in the water system, such that the only wood stave pipe left will be in the periphery in the system (an estimated 5% of the total system). In addition to pipe replacement, two new wells are being added to the water supply system, along with improvements in water storage and treatment capacity. The combination of the new wells, pipe, storage capacity, and treatment capabilities, which will

allow a significant increase in system pressure and volume, will allow the city to serve at least four additional processing plants and allow for upgrading and expanding residential and other business system coverage. Recent metered water consumption indicated a use level of over 22 million gallons per month of which fish processing was a significant component of demand. With recent changes in fish processing technology associated with groundfish processing, however, there have been accompanying changes in water demand. Until recently, peak demand was approximately two million gallons per day; as of mid-January 1991, average daily demand year-to-date was seven million gallons per day.

The sewer system, which like the water system was based on a World War II era system, has recently been upgraded to accommodate fish processing plants, but still serves only part of the community. Further improvements are planned, and for 1991, \$250,000 in funding for upgrade has been requested from the state, which the city will match.

Water rates for residential use is \$20.00 per month; commercial rates range from \$37.50 to \$127.50 per month for service lines under two inches and from \$2.18 to \$1.13 per thousand gallons, depending on metered use. Sewer rates are \$23 per month; commercial rates vary depending on the type of service (Northern Economics et al. 1990:248; City of Unalaska pers. comm.: 1991).

5. Housing

Unalaska has virtually no available housing; every unit is occupied (Northern Economics et al. 1990:248). There is a mix of housing types in various sections of the community. In the oldest section of the contemporary community, housing consists largely of converted World War II era buildings, with a few older non-military related houses and a mix of a few relatively new multiple family dwellings and individual HUD-funded homes. Outlying areas have seen more construction in recent years; in particular the area of Unalaska known as "the valley" features a number of new privately financed homes, while in other areas HUD funding has provided both single family homes and more recently multi-family units that are available to permanent residents of the community that meet HUD qualifications. "Standard Oil Hill," formerly the site of Ounalashka Corporation rental housing on Amaknak Island, has seen the sale of the World War II era duplex houses there to private individuals. Converted World War II era housing on "Strawberry Hill" on Amaknak Island has been gradually but systematically removed over the past few years, while scattered growth continues to occur in outlying areas on the Unalaska Island side of the community. Fifteen new HUD-funded homes have been approved but not scheduled for construction. In 1985, single family/duplex accounted for 74% of the housing in the community; multi-family and trailers accounted for 11.7 and 14.3% respectively. Group living quarters for processing workers are located adjacent to various processing plants (Northern Economics et al. 1990:249).

The number of housing units by type in Unalaska over the past several years are available from the census information gathered by the city of Unalaska in support of Alaska Department of Community and Regional Affairs revenue sharing population determination applications. The following tables (Tables 31 - 33) display the information for the years 1987, 1988, and 1989. It should be noted that the population figures represented in these tables are estimates based on multipliers that take into account the average number of persons per type of dwelling unit. For these censuses, a complete physical count of dwelling units was carried out, and owners of group homes, bunk houses, apartments, etc. were contacted in order to compile accurate data. In other words, the count of units by housing type may be treated as an exact count; other figures, except where noted, should be taken as accurate estimates.

Housing Type	Number	Multiplier	Population Estimate
Single Family	217	2.89	627
Duplex	110	2.79	307
4 Plex	0	--	0
6 Plex	12	3.00	36
Mobile Home	60	2.70	162
Group Home	1	10 ^a	10 ^a
Apartments	59	2.25	133
Bunkhouse	214 ^b	na	405 ^c
Total			1,680

^a actual count
^b approximate number of units
^c company provided figures using a variety of methods
Source: City of Unalaska

Table 32
Unalaska Population by Housing Type, 1988

Housing Type	Number	Multiplier	Population Estimate
Single Family	232	2.97	689
Duplex	72(x2)	2.73	393
4 Plex	4(x4)	2.58	41
6 Plex	2(x6)	3.00	36
Mobile Home	57	2.74	156
Group Home	1	na	14 ^a
Apartments	60	4.00	220
Bunkhouse	527 ^b	na	339 ^b
Total			1,908

^a actual count
^b approximate number of bunks
Source: City of Unalaska

Table 33
Unalaska Population by Housing Type
1989

Housing Type	Number	Multiplier	Population Estimate
Single Family	240	3.13	751
Duplex	72(x2)	3.26	469
4 Plex	4(x4)	2.58	41
6 Plex	2(x6)	3.50	42
Mobile Home	65	2.85	185
Group Living Quarters	--	na	94 ^c
Apartments	90	3.00	270
Bunkhouse	567 ^b	na	413 ^b
Total			2,265

^a actual count
^b approximate number of bunks
^c company figures
Source: City of Unalaska

6. Marine Facilities and Services

The city of Unalaska has been committed to the improvement of community infrastructure. Since 1983, there has been construction of a new airport terminal, power plant, completion of city dock facilities with a 5,000 square-foot warehouse/storage facility, and a new sewage treatment facility (LAI 1987:74).

Table 34 shows the characteristics of the city's current harbor transportation infrastructure, which is the most extensive in the region. The marine network is oriented toward commercial fishing, including boat storage and repair, other marine services, fish off-loading, and product shipment (Northern Economics et al. 1990:244).

Port/Dock Facility	Ownership	Dock Length	Water Depth	Services
Municipal				
Ballyhoo Dock	municipal	420 ft	40 ft	Wr,C,Fl,W
Small Boat Harbor	municipal	561 ft	10-30 ft	
Spit Dock	municipal	975 ft	10-30 ft	
Private				
Aleutian Processors	private		20 ft	C,W,E
Alyeska Seafoods	private	505 & 220 ft	24 ft	Fr,C,Wt
American President Lines	private	300 ft	40 ft	Wr,Fr,C,W,E
Crowley Maritime	private	410 ft	35 ft	WR,C,Fl,W,E
Captains Bay Dock	private	150 ft	80 ft	Fr,Fl,W,E
Delta Western Fuel	private	750 ft	45 ft	Wr,C,Fl,W
Delta Western Warehouse	private	2000 ft	24 ft	Wr,Fr,C,Fl,W,E
East Point Seafoods	private	460 ft	30 ft	Wr,Fr,C,W,E
Offshore Systems Inc.	private	420 ft	40 ft	Wr,Fr,C,Fl,W,E
Ounalashka Corporation	private	2-50 ft	20 ft	W
UniSea				
Galaxy	private	45 ft	20 ft	Wr,E
Greatland	private	250 ft	36 ft	Wr,Fr,C,W
Pot	private	80 ft	20 ft	E
UniSea	private	110 ft	20-30 ft	
Viceroy	private	95 ft	10-30 ft	E
Vita	private	140 ft	20-30 ft	W
Walashek Ship Yard	private		45 ft	C,W,E
W - water; Wr - warehouse; Wt - waste disposal; C - cold storage; E - electricity; Fl - fuel; Fr - freezer.				
Source: R & M Consultants, 1986 (cited from Northern Economics et al. 1990:246).				

The following discussion is based on a report by Northern Economics et al. (1990:246-7). The community of Unalaska is served by two large shippers who have local facilities, as well as a number of smaller domestic firms specializing in shipping and tug and barge service, in addition to numerous foreign freighters. American President Lines, which has a large facility in the community moves container shipments to the Far East, while SeaLand (the other major shipping presence) moves containerized cargo via barge service to Kodiak for transfer to its container ships going to Seattle. Among the smaller companies, Sunmar operates coastal freighters, whereas Western Pioneer accounts for most of the barge traffic from the community.

Although foreign carriers account for much of the shipping through Unalaska, the number of ships calling on the community is unknown, and it is important to note that the community does not derive revenue directly from these ships (and very little, if any, indirect revenue if they do not purchase goods or services in the community). There is one area of exception to this generalization, however, and that is in the area of local shipping facilitator businesses. These are local businesses that have built a niche responding to the paperwork and documentation requirements of foreign vessels that work in American waters. These vessels often use Unalaska as their official Port of Entry into the United States, conduct their business in American waters, and then use Unalaska as their official Port of Clearance where they file their shipper's export declarations. The local businesses that facilitate their document processing are not numerous, nor do they represent a high dollar input into the local economy, but it is the case that there is some economic benefit, however minor, to the community from nearly all of shipping activity that occurs in the waters within the city limits. A rough gauge of foreign vessel activity in Unalaska can be seen in the records for the Ballyhoo dock for 1989 which show 350 foreign cargo vessels using that facility. It should be noted, however, that many vessels do not stop at the Ballyhoo dock, and there is no department or agency which keeps track of the point of origin for all vessels coming into Unalaska. Estimates of foreign vessel activity at Unalaska for 1986 - 1990 were made by Marcom Inc. and appear in the Table 35 below.

Year	Vessels	Port Calls
1986	100	150
1987	150	275
1988	200	375
1989	350	550
1990 (est)	375	625

Source: Marcom Inc.

It is expected that transshipment of product from Unalaska will continue to increase as local processors continue to increase groundfish production volume. This is not under local control, however, as foreign (and "Outside" domestic) interests have a large involvement in the Bering Sea fishing fleet through partnership or financing arrangements, and may substantially influence the point of delivery/processing, transportation, and marketing of the product, which in turn could substantially reduce (or increase) the demand for additional infrastructure in Unalaska.

Another infrastructure development seen in recent years in Unalaska was the opening in 1985 of a marine repair facility currently operated by Walashek Industries of Hawaii. First operated by Panama Marine, a subsidiary of the Aleut Corporation, this repair facility is a converted haul-out facility that was originally part of a World War II era submarine base located adjacent to the present small boat harbor between Expedition Island and "Little South America." The existence of this facility is of major importance as an incentive for vessels to pursue year-round harvesting in the Bering Sea. Vessels from the Pacific Northwest, for example, do not have to return to their home base for maintenance or repairs as was the case prior to facility opening.

The facility presently houses machine, wood, propeller, boiler, and hydraulic shops, a net loft, and a warehouse. Walashek is able to perform general above- and below-waterline repair and maintenance on steel-, wood-, and fiberglass-hulled vessels up to 600 feet in length; engine work is subcontracted. The marine ways is capable of handling vessels up to a range of 300-350 tons and 120-150 foot in length. The five section marine railway has a cradle length of 100 feet, a clear width of 32 feet, and maximum water depths of 15 feet forward and 18 feet aft at mean high water. The marine ways is the only facility west of Seward capable of moving large vessels from the water. In addition to the marine repair facility, several major diesel engine manufacturers now offer repair service in Unalaska, allowing a full range of vessel maintenance and repair operations. In late 1990, Walashek was completing work on a new large two-story warehouse facility on the property as well.

7. Airport

State-funded improvements in the state-owned community airstrip have improved air service to Unalaska. Jet service for Unalaska was begun by MarkAir in 1985 and was made possible as a result of both airport improvements and improvements in aircraft design. However, the drawbacks of the short runway length in conjunction with the often inclement weather conditions make flight cancellations a frequent occurrence (Northern Economics et al. 1990:245). Frequency of delays and cancellations vary significantly during the year, however, with the winter months of December through February featuring the most service interruptions, while the summer months of June through August feature the least.

The fishing and fish processing industries use the airport at Unalaska for crew rotation and acquisition of emergency supplies and equipment. For vessels awaiting new crew members

or machinery before being able to set out, delays due to canceled flights are costly. Air transportation delays were cited as a major problem by vessel captains in a 1986 survey (R & M Consultants 1986; cited from Northern Economics et al. 1990:246).

IV. SOCIOCULTURAL PROFILE

The sociocultural profile provides a broad overview of the social organization and sociocultural values of Unalaska. Social organization will cover governmental, quasi-governmental and social service institutions; Sociocultural values will cover the topics of religion, views on resource management, and subsistence activities in the community.

A. Social Organization

This section on social organization in Unalaska will discuss the various formal institutions which have a role in determining policy and development in Unalaska. The broad categories that will be considered are government, quasi-governmental institutions, and social services.

1. Government

Government will be explored on two levels. The first concerns the organization and scope of operations of governmental entities operating in Unalaska. The second deals with the overlaps, cooperation, and conflicts which ensue between these institutions.

a. Organization and Scope of Operations

This section will address the presence in Unalaska of federal, state, and local governmental institutions and the role they play in the community.

Federal Government

The federal government has had a marked influence on the community of Unalaska in recent years through several pieces of legislation and the actions of several federal agencies. These include the Bureau of Indian Affairs (BLA), the Bureau of Land Management (BLM), the Alaska Native Claims Settlement Act (ANCSA), the Minerals Management Service (MMS), the Comprehensive Employment and Training Act (CETA), the Department of Housing and Urban Development (HUD), federal port status regulations, and various federal fisheries management regulations. The influence of the federal government on the day-to-day affairs of the community has changed dramatically in the past 30 years. These changes occurred in regard to statehood, which removed much of the direct governing role of the federal government, and the passage of ANCSA, which removed direct federal ownership of many of the lands immediately important to the community. The recent influence on Unalaska of the various federal actions and entities mentioned above may be sketched as follows:

- At one time an important institution in the community which in effect controlled a number of different aspects of life, the BIA has dramatically declined in importance to Unalaska in recent years. This has been a result both the enactment of ANCSA in 1971, since which "the BIA's major function in the community is to serve as a trustee for the property owners of Native allotments and Native Trustee Deeds" (IAI 1983:41) and the fact that Unalaska has become an ethnically plural community. The large majority of contemporary community residents belong to ethnic groups outside the purview of the BIA.
- Through the sale of General Service Administration parcels, the BLM is responsible for the passage of some lands from government to private hands prior to the passage of ANCSA. These lands are virtually all of the commercially developed lands other than those owned by the Ounalashka Corporation. Formerly the holder of nearly all of the land in and around the community of Unalaska, today the BLM has essentially no active role in the community.
- ANCSA is in large measure responsible for the overall structure of land ownership patterns in the community, formation of the local Ounalashka Corporation and Unalaska Aleut Development Corporation, as well as the regional Aleut Corporation and Aleutian/Pribilof Islands Association. While in the past the Ounalashka Corporation was involved with several local development projects, as of 1990 it has taken a less active role in community commercial development. The Ounalashka Corporation is by far and away the largest landowner in and around the community, and has focussed on its land holdings nearly exclusively as its business base. The Aleut Corporation is less involved in local economic development projects than in the past, while the Aleutian/Pribilof Islands Association continues to be involved with the provision of some services to the community, with a primary emphasis on serving the needs of the Aleut portion of Unalaska's population.
- As the federal entity in charge of the offshore oil lease sale process, MMS has been responsible for a number of studies on Unalaska and its resource base over the past decade, and sent representatives to the community when sale processes were active. The influence of offshore oil activity on the economics and the politics of the community has been significant, but this influence has waned in recent years.
- Another federal program that has faded in local importance in recent years is CETA, which in the early 1980s was utilized as a funding source for local job training so that jobs that would have otherwise gone to outsiders were directed to local individuals instead. CETA monies were also used to

establish an alcohol abuse rehabilitation program in the community, although this program is no longer in service.

- Housing obtained through HUD under the auspices of the regional Aleutian Housing Authority has been provided to some Aleut residents of the community. The first wave of HUD housing, completed in the early 1980s, altered the structure of the community somewhat, through the creation of a new neighborhood that was physically separated from the rest of the community. This development was the first ethnically and economically differentiated housing in the contemporary community. In September of 1990, additional HUD housing opened in Unalaska in the form of a 13-unit apartment building on the Amaknak Island side of the community. Although a welcome addition to the housing supply in the community, it is not seen as adequate to meet all of the needs of the Aleut population that it was primarily intended to serve. The economic vitality of the community is, in some ways, a doubled edged sword for local residents. While there are increased job opportunities that are highly valued, the cost of living has also risen significantly, and one of the areas of most pronounced increased cost is in the housing market. Families or individuals with limited incomes are hard pressed to find affordable housing, and this is an emotional issue for a number of residents. It is considered ironic by some Aleut individuals, for example, that some young Aleut families are not able to afford homes in a community that was home to their ancestors for hundreds and thousands of years. Further, location of housing, when it does come available, is not always what residents would consider optimum. For example, nearly all of the residents of the new HUD multi-unit structure on the Amaknak Island side of the community were formerly residents of the Unalaska Island side of the community, and such a move has implications for kinship- and friendship-based patterns of social interaction.
- On several occasions, Unalaska has tried to gain advantageous changes in federal port status, such as becoming designated a foreign trade zone or as a free port. The community has also attempted to be included under the provisions of the Jones Act of 1936 in order to boost the shipping sector of the local economy. To date these efforts have not been successful, but pursuit of such changes indicate a desired development direction for the community.
- The role of federal fisheries management has had a profound influence on the community. Changing federal fisheries regulations have strongly influenced the nature of the community by shaping its primary economic base. From the local perspective, the creation of the 200-mile zone (Magnuson Fisheries Conservation and Management Act of 1976) was among the most important of these. Currently, issues of groundfish regulation are of great

concern to community leaders. Of primary concern to community leaders is the maintenance of a consistent economy in the community, and this, according to community officials, can only result from consistency in the fisheries that are the economic base of the community. A year round fishery leads to a consistent economy; fisheries that are managed as or become "derby" fisheries contribute to wide economic fluctuations and economic instability in Unalaska.

State Government

The state of Alaska has a marked presence in Unalaska through several different agencies and projects. These include alternative energy source exploration, development and improvement of transportation facilities, regulation of specific natural resources, support of a system of formal social control, and a range of social service programs. These may be sketched as follows:

- State funded geothermal energy exploration on Mount Makushin some 12 miles from the community indicates large potential for future development. What is not clear, however, is the economic viability of the development of such a resource both in terms of the size of the local market and the funding needed to develop a remote site such as this.
- The regional Division of Family and Youth Services programs of the Department of Health Services are administered by a social service worker based in Unalaska. This position is concerned primarily with the provision of adult and child protective services, and has also been involved with the formation of crisis intervention teams. Due primarily to the housing shortage in the community, this position has rarely been staffed in recent years.
- The state has a district court in Unalaska, and a magistrate resident in the community. The court handles over 300 misdemeanors per year and a number of civil suits under ten thousand dollars. The court handles, but does not adjudicate, 40 to 50 felonies per year. The physical presence of the court in the community undoubtedly influences the style of formal social control in Unalaska. During the early to mid-1980s, the direction of law enforcement in the community was the cause of considerable community friction, and the subject of heated debate in local politics. Some longer-term residents of the community were of the strong opinion that law enforcement was becoming too formalized and unresponsive to the needs of local residents, while on the other side of the debate other residents were of the strong opinion that the community was too "frontier" like and needed much stronger, formalized law enforcement. For example, in 1983 a group called "Citizens for Responsive Government" was formed as a self-designated watchdog organization that

focused on what it perceived as the inordinate growth of city government, and of the Department of Public Safety in particular (Downs 1985:307), and this group successfully spearheaded cuts in planned growth in this area. Early in 1984, on the other hand, a "petition for sanity and security" with 192 signatures was presented to a special session of the city council to get the city to reconsider budget cuts for the Department of Public Safety (Impact Assessment 1987:73). Added to this volatile mixture were hard feelings that resulted from some individuals believing that law enforcement as practiced at the time was not sensitive to the historical and cultural complexities of the community, which was attributed, in part, to the fact that nearly all the police officers at the time were new arrivals from other parts of the United States who were unfamiliar with life in rural Alaska. While this situation has improved in subsequent years, there are still issues in the area of law enforcement that arouse considerable emotion in the community. Neither a district attorney nor public defender is assigned to Unalaska; no professional legal aid is available in the community. Recently, a citizen's group in the community has been pushing for more strenuous prosecutions of felony cases originating in Unalaska, as a number of publicized cases have been reduced from felony to misdemeanor status by the district attorney's office in Anchorage which handles all Unalaska felony cases. According to a recent Anchorage Times article (Dec. 14, 1990, pg A-1) lack of felony prosecutions have angered and frightened local residents, frustrated the city council, and demoralized local police officers.⁴ A State Trooper is stationed in Unalaska, but in the normal course of his duties he does not work within Unalaska proper, with certain exceptions, due to the fact that the city has its own department of public safety. The Trooper does work in the city, however, in cases that involve state facilities, such as the airport, and in cases that clearly involve state jurisdiction or that cross jurisdictional boundaries.

- The state is responsible for the regulation of several of the resources that are economically and socially important to the community. The local perception of state regulation of local resources is similar to the local perception of federal regulation of local resources. For example, the common local perception is that state regulation of the local salmon fishery will be done in the best interests of the state which do not always coincide with those of the local fishermen. The Alaska Department of Fish and Game, which maintains an office in Unalaska, is responsible for subsistence fishing regulation as well as enforcement with state commercial fish and game laws, including those

⁴Of less serious importance than issues of major crime, four other issues of regulation seem to be perennial topics of debate in the community, and these would appear to be common ones in nearly all of rural Alaska: regulation of bars; regulation of dogs; regulation of off-road vehicles in and around the city; and collection of garbage. The importance of each issue waxes and wanes, but they have been recurrent topics for at least the past decade in Unalaska.

covering the locally very important crab fishery. It should be noted, however, that while there may be some inherent tension between some commercial fishermen and those who regulate them, the senior staff member of the local Fish and Game office is a long-time community resident who enjoys considerable rapport with other residents, and that this office is seen as responsive to the needs of local residents as, for example, on subsistence issues. The local Fish and Game office is also responsible for the local regulation of sport hunting and fishing. Two State Fish and Wildlife Protection Officers stationed in the community are responsible for the protection of fish and wildlife populations within state-owned areas and within the local portions of the Alaska Maritime National Wildlife Refuge. The most common locally utilized resources regulated by Fish and Wildlife Protection Officers are marine mammals, which are traditional use subsistence resources of local Aleuts.

- The state is also responsible for issues of environmental quality in and around Unalaska, and maintains a Department of Environmental Conservation, environmental quality section, position in the community. This individual and office is responsible for the quality of all aspects of the environment within state jurisdiction (air, land, and water). This includes such mandates as oil spill cleanup, water quality monitoring, and the regulation of hazardous waste.
- As noted in the infrastructure discussion, state-funded improvements in the air transportation and harbor facilities of the community have been seen as beneficial to the economic health of the community. Although not seen as addressing all of the needs of the community in these areas, they have gone a long way toward resolving acutely felt local needs that were of crisis proportions in the recent past.

Local Agencies and Institutions

Unalaska incorporated as a first-class city on March 3, 1942. Incorporation took place in the context of wartime buildup of military facilities in the area and, according to local accounts, was intended to capture some local benefits from the high level of war-related activities. Unalaska, as a first class city, has a degree of autonomy regarding its tax base, school system, local government, and related structures. But along with this autonomy comes the responsibility for providing services even in times of local hardship. In fact, during a locally severe economic downturn in the 1950s there was a strong local sentiment to disincorporate, but upon investigation by the city council the legal impediments to doing so were found to be insurmountable.

Unalaska is governed by means of a city council. The Unalaska city council is composed of six members elected to staggered three-year terms. A mayor is also elected, and sits as a non-voting council member except in cases of a tie. The mayor's position in the past has

been largely ceremonial, with the day-to-day workings of the city government handled by an appointed city manager and his or her administrative staff. In somewhat of a break with past practices, the current mayor of the city is very active in lobbying for the interests of the community in regional, state, federal, and international contexts.

The city administration is broken down into five departments. They are administration, public safety, public works, planning, and parks, culture, and recreation. City revenues are generated through both personal and real property tax, a local sales and use tax, shared state revenues (including raw fish tax), state grants, and fees and permits.

b. Overlaps, Cooperation, and Conflicts

The federal government has had a profound influence on the shape of the community, altering ethnic, social, economic, and political relations on the local level. The interests of the federal government are not infrequently seen as contrary to the interests of the local people. "The role of the federal government in this respect can be compared to the role of distant governments administering frontier-like environments elsewhere. Regions rich in resources and with small populations and little political clout often find that the wishes of the local few are overridden by the wishes of the distant many when it comes to the development of those local resources" (Downs 1985:118-9). The relationship between the state and community is a cause for concern for locals, as they perceive that the interests of the state are frequently out of line with those of locals, particularly in the area of resource regulation as noted above. Unalaska's incorporation as a first-class city means that the state has fewer responsibilities toward Unalaska than some other communities of similar size, further, Unalaska does not have the resources of a borough form of government to draw upon.⁵

On the regional level, Unalaska is active in the Southwest Alaska Municipal Conference, an association that includes members in the Bristol Bay, Aleutian, Kodiak, and Pribilof areas.⁶ Formed in 1986 to address matters of common interest to its member communities,

⁵At several times within the past decade there has been discussion of the possibility of Unalaska becoming part of a borough form of government, but these discussions have come to naught. Inclusion of Unalaska in a borough with smaller communities in the Pribilofs and/or western Aleutians would, from the perspective of those smaller communities, amount to political annexation by Unalaska because of the vast differences in size that would translate directly into relative political power and loss of local control in those small communities. The benefits to Unalaska in such an arrangement, according to city staff, would be minimal in any event. While at one point Akutan was thought to be a potential partner in a borough with Unalaska, that community subsequently sought and gained admission to the Aleutians East Borough. (Formation of a borough including the Pribilofs and the smaller western Aleutian communities but excluding Unalaska is considered problematic given logistical difficulties.)

⁶The communities of Kodiak, Sand Point, and St. Paul that are also being profiled in this document are all members of the Southwest Alaska Municipal Conference.

conference membership now includes cities, tribal/traditional councils, non-profit organizations, school districts, and businesses. The impetus for the organization of this entity was provided by individuals in the member communities who recognized that policies that dramatically influence local and regional fisheries were made at the state, national, and international levels, and that working on behalf of individual communities, local representatives had a less effective voice in the regulatory process than a regional organization would. With a main office in Anchorage, the Southwest Alaska Municipal Conference has grown since its inception to be active in a wide range of issues. Currently, the conference focuses on such areas as fisheries policies, solid waste, tourism, ports, harbors, and other capital improvements, as well as other aspects of economic development. The conference also acts as a clearinghouse for information on the region and its communities.

2. Quasi-governmental, Regulatory, and Industry Associations

a. Native Corporations and Tribal Organizations

The regional Aleut Corporation owns the subsurface estate of all of the lands owned by the local Ounalashka Corporation which is virtually all of the privately held land in and around the community of Unalaska. Formerly, the Aleut Corporation was a partner in the American President Lines shipping facility in the community and was the owner/developer of the local Panama Marine ship repair facility, but these have been sold off. These two ventures were, however, important to the maintenance of Unalaska as a premier fishing port even in bad economic times. As of 1986, the Aleut Corporation's only business interest in the community was a sand and gravel operation (IAI 1987:88). The Aleut Corporation, however, continues to derive other revenue from Unalaska through its ownership of subsurface rights in the form of fees from development. Both municipal and private enterprize projects that involve moving subsurface materials owned by the Aleut Corporation must contract with the Aleut Corporation in order to do so.

The Aleutian/Pribilof Islands Association (APIA), a non-profit regional corporation, acts as a quasi-governmental agency through the provision of social services and programs on the regional level. Though more active in other communities in the region which provide fewer of their own municipal services, the APIA was involved, by means of the Aleutian Housing Authority, in the provision of HUD housing in the community, procuring reparations money for Aleut World War II internment survivors, the administration of CETA funds, and the funding of a clinical psychologist with regional responsibilities who is based in Unalaska.

The Ounalashka Corporation, the local for-profit Native corporation organized under the auspices of ANCSA, is a political institution in the sense that, during the course of meeting its economic goals, it has had to work with the city government on a broad variety of issues, many of which focus on development. Due to the fact that the Corporation owns the vast majority of land within and adjacent to the city, frequent contact is assured. Additionally,

the leaders of the Ounalashka Corporation tend to be politically active in the community, although many of the Aleut individuals interested in being public leaders shifted their attention away from city government politics and focused on the corporation. The Ounalashka Corporation in the recent past was involved in a number of business ventures in the community. For example, in 1986 the corporation was the owner of the community's Chevron station, the American President Lines shipping facility, an equipment rental company, and acted as a landlord for a significant number of residential rental properties, among other interests. More recently, however, the Ounalashka Corporation has focussed more narrowly on land development and leasing to businesses. As of late 1990, the corporation was completing sales of its duplexes to individual owners, and had recently completed a 16-plex that has been rented to the city on a long-term basis.

The Ounalashka Corporation is interested in developing more residential subdivisions, according to the corporation president, but provision of utilities has proven to be a severely limiting factor. Even with the housing shortage in the community, the cost of providing utilities to property not adjacent to existing utilities has proven prohibitive. With development costs alone estimated at \$25,000 to \$40,000 per lot, it becomes clear why businesses are forced into the housing market, whether or not they want to be. Where individual employees would have difficulty meeting housing prices, businesses can capitalize the housing much faster, with the result that there is a significant portion of the residential housing in the community that is owned by businesses.

The Ounalashka Corporation, as of late 1990, provides approximately 14 permanent employment positions and a fluctuating number of casual labor positions. Its economic role in the community as a tax payer, however, is much greater than its role as a direct employer. As of 1985 (the most recent year for which such data is available), the Ounalashka Corporation was the number one tax payer in the community in the category of real property taxes, and was third highest tax payer in the community in the category of real, business, personal, and sales taxes combined. In this latter overall category, the Ounalashka Corporation was only ranked lower than two petroleum distribution companies, and it ranked higher (that is, paid more taxes) than any of the seafood processors, retailers, or other businesses in the community.

The Qualingin Tribe, the recognized tribal entity for the community (whose formation is outlined below) is a relatively new governmental entity in Unalaska. A governmental institution whose constituents are Unalaska's Aleut residents, one of the primary purposes of the tribe is to promote Aleut cultural awareness and preservation in the community. This has become an urgently felt need in recent years due to the fact that while Unalaska is a traditional Aleut community, the Aleut residents of Unalaska form only a small minority of the contemporary population.⁷ The Russian Orthodox church, and its associated bishop's

⁷Although accurate, current census numbers detailing ethnicity are not available for the community of Unalaska (and will not be until the release of 1990 U.S. Bureau of the Census data), based on tribal enrollment figures it would appear that there are approximately 300 Aleut residents in the community. This would be

house are current preservation projects, and it is hoped in the future that a local museum and cultural center can be established. At present, only the Ounalashka Corporation offices and the Unalaska City School have exhibits that publicly display Aleut artifacts and offer some information on aspects of traditional Aleut life. The Qualingin Tribe has also fostered local Aleut involvement in health care (outlined below) and tribal business associated with cultural issues. For example, one upcoming project sponsored in part by the tribe is the bringing of a traditional skin boat builder from the Soviet Union to Unalaska in an exchange of traditional skills.

b. Marine Natural Resource Managers

At the time of the last field research in the community, the only locally-based natural resource managers of fish were the state regulatory agencies previously mentioned, and the National Marine Fisheries Service observer program that operated out of the community to observe fishing operations and collect biological data. The North Pacific Fishery Management Council is the object of some lobbying by local fishermen, but there is no permanent local representation of this group.

c. Industry Associations

One relatively recently formed entity in Unalaska is the Chamber of Commerce. Formed in early 1988⁸ to promote business and industry in the community, the Chamber has been successful in getting an estimated 80 - 90% of the businesses in the community to join.⁹ In the short time since its inception, it has become a strong economic force in the community. Luncheon meetings are held monthly, and feature both local and out-of-town guest speakers. According to the Statement of Objectives of the organization:

approximately 13% of the 1989 community census figure of 2,265.

⁸It should be noted that the present Chamber of Commerce in Unalaska is at least the second "Chamber of Commerce" to be formed in recent years. In 1982 a Chamber of Commerce was formed in the community, partially in response to the formation of the Lions Club. The Lions Club originated as an all-male organization of businessmen and in response to the admission policies of the Lions, a Chamber of Commerce was formed as an organization for the businesswomen of the community. The Lions Club subsequently changed membership policies, at least on the local level.

⁹This is an estimate by an officer of the Chamber. In 1990, there were a total of 250 business licenses issued for the community, but clearly a significant number of these are for very small scale or virtually inactive enterprises. The Chamber of Commerce directory for 1990 lists a total of 80 members, of which 4 are individual memberships.

The Unalaska/Dutch Harbor Chamber of Commerce is the principal voice of business. Its objective is to be the voice of its members and the business community on matters of economic, educational, and cultural/social concern and to develop, maintain and monitor selective programs of action which identify issues, provide support in areas of concern and foster community pride and recognition. (Unalaska/Dutch Harbor Chamber of Commerce 1990:37)

The Unalaska/Dutch Harbor Chamber of Commerce is in some ways not a "traditional" chamber of commerce in the sense that it is oriented as least as much toward being a community service organization as it is toward developing business in the community. For example, in 1990 the chamber donated \$1,000 toward the restoration of the Russian Orthodox church, and \$1,000 to the community clinic. Also during 1990, the chamber donated \$2,000 to new scholarship recipients, and \$1,000 in continuing scholarship support.

Shortly after, and partially in response to, the formation of the Chamber of Commerce a second group was formed in the community to foster community pride and recognition. Known as "Unalaska Pride," this charge is "To improve the image and appearance of Unalaska." In addition to stressing the importance of the physical appearance of the community, the sentiment behind the group's motto "Take Pride in Unalaska" is spread through the publication, or republication, of historical works on the community, such as the books "Naval Operating Base, Dutch Harbor and Fort Mears, Unalaska Island, Alaska: Historic American Buildings Survey Recording Project Report," and "Russian America Theme National Historical Landmarks: National Park Service Alaska Region." The group also sells art work depicting the community and promoting community events. Among the recent projects undertaken by the group to improve the physical appearance of the community was a clean-up of the community cemetery, support of a joint city and Ounalashka Corporation project to create a historic park, a paint and clean campaign, a plant and shrub project and bulb sales, creation of a series of awards for yard work, and decoration of the community for the Christmas holidays.

Both the Chamber of Commerce and Unalaska Pride seek to improve community well being; they differ in both their focus and their membership. The Chamber of Commerce is oriented toward economic development in addition to community service, whereas Unalaska Pride is oriented toward physical and other improvements of Unalaska's image as residential community. Membership in the Chamber of Commerce is oriented toward businesses and males significantly outnumber females; membership in Unalaska Pride is oriented toward individuals and non-profit organizations and its female members significantly outnumber males.

One fisheries-specific industry association to form in recent years is a group of local commercial fishermen who, when compared to fishing vessels from Outside that operate locally, possess relatively small vessels. This group has two main goals. The first is to

attempt to establish exclusive fishing areas for local fishermen, such as the exclusive zones near Atka and the Pribilofs. These areas would allow access to local fisheries by local fishermen that are now sometimes effectively denied. For example, the local commercial halibut season may be only 24 hours in duration. Since the local boats are relatively small, if the weather is bad during that 24 hour period, the local fishermen are effectively shut out of the fishery. Creation of an exclusive zone for even some limited openings would allow the local fleet to be less weather dependent on what can easily be a make-or-break aspect of their livelihood. The second goal of the association is to get the North Pacific Fisheries Management Council to make changes in the regulation of a number of species whose quotas are filled as by-catch by larger fishing vessels, effectively shutting the local small fleet out of attempting to go after those species as target species.

3. Social Services

a. Organization and Operation of Services Available

The formal provision of social services in Unalaska has been markedly reduced in the recent past. The Public Assistance Division of the State of Alaska Department of Health and Social Services is represented in the community by a fee agent, who works in conjunction with the services provided by the Unalaska Aleut Development Corporation. This individual assists Unalaskans with a number of government documents and programs that are described below, and these services have expanded in the past few years. On the other hand, the Alaska Department of Health and Social Services, Division of Family and Youth Services was formerly represented by a resident social worker who had regional responsibilities. This worker's primary duties included individual and family counselling and referral, particularly in cases of spouse and child abuse, and crisis intervention. As of late 1990, however, the community had been without the services of a resident social worker for approximately two and one-half years, and the logistics of providing these services from outside of the community have proved burdensome. Also in the recent past, the Aleutian/Pribilof Islands Association placed a clinical psychologist with regional responsibilities in Unalaska as well. Operating under the title of the Aleutian Counselling Center, this represented the first mental health services to be available in the region. The APIA employed psychologist provided counselling and therapy services, but at present this position and the counselling center are not staffed, due to the fact that the psychologist left the community, and no housing is available in the community that would allow recruitment of new staff. There are several individuals in the community who are involved in social service provision in an informal capacity. These include members of the Department of Public Safety, representatives of the Unalaska Aleut Development Corporation (UADC), members of the Unalaska Christian Fellowship, and members of a local crisis intervention team.

In recent years, the UADC has taken on a much greater role in the provision of social services in the community than was the case in the past. As of late 1990, the stated purpose

of the organization was to facilitate social services for Unalaska in coordination with state and federal programs. The UADC also coordinates and administers grants directed toward cultural enrichment or Aleut population specific projects. For example, the UADC is the administrator of a \$10,000 grant from the National Park Service to take a cultural resources inventory, the goal of which is to document existing resources for a baseline that can then be incorporated into community development plans; it also managed a \$2,300 grant to perform tribal enrollment when the status of Unalaska's recognized tribal entity changed. Until the recent past, the UADC was recognized as the tribal entity for the community for the purposes of interacting with federal agencies. An administrative problem developed, however, in part due to UADC's incorporation under state law and its non-governmental form of organization. The problem surfaced in 1988 when Unalaska was left off a federal roll of recognized tribal entities, much to the surprise of Unalaskans. This had implications for Unalaska with respect to the ability to receive federal grants and other program monies and services.

When it was learned that the federal government no longer recognized a tribal entity for the community, Aleut Unalaskans were faced with the question of what entity should be designated as such. The obvious choices were to attempt to get either the Ounalashka Corporation or the Unalaska Aleut Development Corporation recognized as an official tribal entity, or to form a new organization specifically for the purpose. After a community meeting, it was decided to reestablish a tribal government with a traditional council. Help with reestablishment was given by the APIA and the state branch of the BIA. In 1988, the process of entity formation was begun, and over a period of approximately one year, a constitution was adopted, membership criteria was established, and an initial enrollment was made that resulted in the formation of the Qualingin Tribe with approximately 276 members, including minors. It was noted with some irony in the community that it was strange that Unalaska Aleuts had to establish their official existence to the federal government, given the fact that the traditional village of Unalaska has been documented in no little detail since the earliest Russian contact, and the fact that Unalaska had traditional chiefs through World War II. The only way that Aleut Unalaskans discovered that they "did not exist" was when a routine federal grant application was denied, and it was discovered that the denial was based on a sudden case of non-existence. That they had to prove their existence was unpleasant, and called into question issues of identity in a community that has been home to Aleuts for countless generations. The fact that a significant portion of Aleuts feel that their community has been overrun by outsiders as a result of the economic booms of recent years added to the insult of losing recognized status on the federal level.

Since its formation, the Qualingin Tribe has taken over administration of Johnson-O'Malley project funding for the community, and has also taken over facilitation of Native health care in Unalaska. The role of the Tribe in health care is discussed in a separate section below. Notwithstanding the former functions of the UADC that have been passed over to the Qualingin Tribe, the UADC has retained an important role in the provision of a number of social services in the community. For example, one of the more recent services, begun in 1988, the coordination of the senior lunch program. The program is run through a non-

profit group that looks after the health and well-being of seniors in the community, and provides hot lunches three days a week at a central location. "Meals on wheels" service is also provided to seniors and disabled persons who request it. Medical care for seniors is also coordinated through this program, and supplemental food packages including monthly staples are provided for seniors. If seniors are in a position to offset some of the costs of the lunch services, they contribute a portion of the operating costs on a per-meal basis. The overall program is funded through bingo games held in the community as well as through donations. The UADC, through one of its staff members who is the fee agent for the community, is also involved in the providing individuals and families with administrative assistance for the following programs: energy assistance, state disability, food stamps, longevity programs, social security, disability, retirement, and Aid to Families with Dependent Children. This individual also assists residents with all manner of government documents, including income tax preparation. The UADC is also involved with less formal and more "grass-roots" social service provision in the community. For example, the UADC acts as a food bank, accepting surplus groceries from seafood processors and fishing boats and distributing them to those in need in the community. In the recent past, the UADC has acted in concert with the Lions Club on community projects, and is involved with providing Christmas food baskets to elders in the community. While the main goal of the UADC, as implied in its name, is to serve the Aleut portion of the community, it does to some degree address needs of the community at large.

A local Lions Club, named the Ballyhoo Lions after a peak on Amaknak Island, was formed in 1982 with 51 charter members, all of whom were male. Subsequently, female members were admitted to the organization, contrary to the then national standards of the parent Lions Club organization. While on the national level, the Lions Club is primarily an organization for businessmen to foster positive economic relationships and fair business practices among its members as well as community service, the Ballyhoo Lions, like most local Lions Clubs in Alaska, downplays the business aspects of the organization in favor of its service aspects. For example, for its initial membership drive the local club sought to draw members from all segments of the community, including such diverse groups as recently arrived small business persons and Aleut elders. The formation of the Ballyhoo Lions marked the first formal service club in the community, although it should be noted that formal service groups have existed in the community under the auspices of the Russian Orthodox Church for generations. The Ballyhoo Lions Club has experienced periods of membership increase and decline since its inception. In early 1986 the club had only approximately 18 active members, but this was followed by an increase in activity. By mid-1990 the club was nearly inactive again. A membership drive in late 1990, however, revitalized the organization such that for at least one month the Ballyhoo Lions were the number one Lions Club in the state in terms of the number of new members. As of January 1991, the club had approximately 30 members. Over the course of its history, the club has been active in numerous community functions and has been responsible for a variety of service projects. Current projects include construction of a new school bus stop shelter as well as repair of previously donated shelters. As of early 1991, the Ballyhoo Lions were in

the process of attempting to obtain their own gaming permit to allow fundraising through bingo independent of other community service organizations.

It should be noted that there are a number of other volunteer service organizations in the community as well. Although these may not fall under the umbrella of "social services," contribute significantly to the quality of life in the community. Under the Department of Public Safety, for example, the Emergency Medical Services Division coordinates the activities of the Unalaska Volunteer Ambulance Service, and the Fire Division coordinates the activities of the Unalaska Volunteer Fire Department. Both of these groups have been active in the community for many years, and their recent history is documented elsewhere (Impact Assessment, 1983, 1987; Downs 1985). In October 1990, the Unalaska Volunteer Fire Department had 15 members in "Company 1" (whose primary service area is the Unalaska Island side of the community) and 14 members in "Company 2" (whose primary service area is the Amaknak Island side of the community). Both companies, unlike in years past, share a common fire station, as the "Dutch Harbor" (Amaknak Island side) station, formerly on land donated by UniSea, Inc. was closed due to UniSea operations expansion. A new station house on Amaknak Island for Company 2 remains to be found. In addition to the volunteers, the fire department features two paid positions: the fire chief, who is also the Assistant Director of the Department of Public Safety, and a fire equipment maintenance position (which is a combined position with collateral duties of in corrections and communications for the Department of Public Safety). In October, 1990 the Unalaska Volunteer Ambulance Service had a total of four individuals certified as Emergency Medical Technician, Level III, two certified as EMT IIs, and 12 certified as EMT Is. Of these volunteers, the coordinator estimated that a total of 13 were truly active, and 6 of these had been active on the service for two or more years. December through March has traditionally been the busiest time of the year for the ambulance service, but according to the coordinator, 1990 has been steadily busy with 232 runs to date as of October 1, 1990. Volunteers serve on an on-call shift basis, with 12 hour shifts running from 6 a.m. to 6 p.m. and 6 p.m. to 6 a.m.

Service records from the EMS division and fire department appear in Tables 36 and 37 below. It is interesting to note from the ambulance statistics that the division serves predominantly non-permanent residents.

Table 36
Unalaska Volunteer Ambulance Service, 1986 - 1989

	1986	1987	1988	1989
Runs				
Total Number of Runs	117	146	169	209
Number Requiring Emergency Transport	117	111	121	175
Number of Routine Inter-Facility Transfers	31	30	45	68
Other	2 ^a	2 ^a	3 ^a	6 ^a
Patient Residence				
Local Residents	26	25	15	36
Non-Local Alaska Residents	14	10	12	18
U.S. Out of State Residents	30	45	89	117
Foreign Residents	60	34	42	47
Unknown	0	0	8	1
Total Patients	130	114	166	219
^a Refusals once ambulance has responded				
^b Includes 3 refusals, 1 false alarm, and 1 DOA (no transport).				
Source: Unalaska Volunteer Ambulance Service Records.				

Table 37
Unalaska Fire Calls, 1987, 1989, 1990

Fires	1987	1989	1990
Building	12	9	NA
Vehicle	7	9	NA
Other	5	3	NA
Total Fires	24	21	31^a
Total Fire Calls	31	21	NA
^a Year to date as of October 6, 1990.			
Source: Unalaska Volunteer Fire Department records.			

Another community service organization that does not fall under the rubric of "social services" but is seen as contributing to the quality of life in the community is Channel 8 (officially K08IW), the local television station. Originally started in the early 1970s at the school and run by the school board, this station exclusively served the television needs of the community prior to the introduction of state sponsored "Ratnet" (Rural Alaska

Television Network) satellite programming first received via an "earth station" in April 1979¹⁰. (A wide range of cable programming subsequently became available in the mid-1980s). Since its formation, Channel 8 was transferred from the school, to the city, and then in 1984 to Unalaska Community Television, Inc., the non-profit corporation that now operates it. It currently receives approximately 45% of its funding in the form of a grant from the city of Unalaska, with the balance of funding coming from sale of memberships (Channel 8 is a Public Broadcasting System affiliate station) and private donations. Memberships are \$50 per year for individuals, \$100 per year for families, \$250 per year for businesses, and \$2300 per year for special patron category of business membership. One service provided to business donors is mention on the community bulletin board aired by the station. The station acts as an informational and recreational outlet for the community, airing locally produced news and entertainment programs. According to one of the members of the station's board of directors, Channel 8 has the highest percentage of local programming of any station in the state of Alaska, and it draws volunteer workers from virtually all segments of Unalaska's population.¹¹

b. Description of Client Population

Summary of Major Social Problems

The social issues which concern Unalaskans vary among population segments though there is considerable overlap. One of the major problems in the community from the local perspective, particularly among permanent residents, is domestic violence. The most common forms of domestic violence in the community are spouse and child abuse, neglect, or abandonment. These manifestations are variously attributed by local service providers to conflicts caused by the stresses associated with social isolation, sociocultural/value clash, an increase in dysfunctional households with the breakdown of traditional family or other kin structures, and alcohol or drug abuse. It was community concern over these issues that

¹⁰The Alascom "Earth Station" construction also allowed the first long distance telephone service to the community, beyond a single community radio phone located at the "White Alice" (later RCA) facility constructed in the early 1960s. Local (intracommunity) telephone service had been available since 1972, but this system was not capable of long distance dialing until July 1978 when the earth station first became operational.

¹¹Unalaska is also served by a radio station, KDLG, that originates out of Dillingham and is repeated locally. Prior to switching to KDLG in November 1982, Unalaska was served by the Armed Forces Radio Network (AFRN). While KDLG does originate elsewhere, it carries Unalaska news and information programming in addition to local news from other communities in its coverage area. Additionally, it carries news and information programming of regional and state interest, such as marine weather and information on commercial fishing status such as openings and closures, which represents a significant departure from the type of information available on AFRN. Due to the fact that KDLG represents the only radio service available in a number of communities, its wide range of entertainment programming reflects the fact that it tries to respond to a very wide range of interests and tastes.

led to the organization of much of the existing structure of local formal health and social services.

According to social service, health care, and public safety personnel, most of the social problems in Unalaska today are related, in one way or another, to the problem of alcohol abuse, and this problem affects all segments of the community regardless of age, residency status, or ethnicity. According to Public Safety personnel, alcohol is involved in most of the criminal activity in the community including violent acts, destruction of property, and thefts. According to local social service providers, alcohol abuse is associated with socially stressful situations, such as dysfunctional family environments, and psychological disorders, such as depression. According to some community leaders who are not themselves clinicians or direct service providers, episodic alcohol abuse may in some cases be attributed to a lack of local alternatives in lifestyle or recreational opportunities, that is, for some individuals bouts of drinking may result from the perceived lack of alternative non-work activities. According to one city staff member, development of recreational and other leisure time activities and facilities has lagged far behind industrial development in Unalaska, and this is recognized as a problem.¹² The boom and bust nature of Unalaska's economy over the past 15 years or so has been seen by some community members as being a contributory factor to alcohol abuse, as there are factors associated with rapid economic change (whether growth or decline) that are locally seen to exacerbate whatever alcohol problems may already exist, if not create new ones. For example, when fishing is good and crews work long hours and days on the fishing grounds and spend little time in town, it is locally perceived that those port visits are likely to involve heavy drinking, which tends to create problems; on the other hand "bust" times are seen to create an environment conducive to alcohol abuse because of frustration and a lack of alternative activities. In other words economic instability, whether it is associated with rapid positive or negative growth, is locally felt to be associated with social problems in general, and alcohol abuse in particular. There have been several alcohol programs in the community in the past, but professional alcohol counselling is available only on an intermittent basis at the present. Several self-help groups for substance abuse do operate in the community, however, and include local chapters of Alcoholics Anonymous, Al-Anon, and Natives for Sobriety.

¹²Unalaska, like many other rural Alaskan communities, does have a number of participation sports opportunities for residents. Popular sports leagues include softball, basketball, volleyball, and flag football. "Open recreation" is also available at the school gym and pool facilities during limited hours. For those inclined to individual pursuits, there are fewer recreational opportunities, but popular ones include hiking and sport fishing. Several annual community recreational events draw well, including the Fourth of July celebration and the Labor Day King Crab festival. For those not inclined to sports or outdoor activities, however, recreational activities are decidedly limited.

Relation of Social Problems to Fishery-Related Populations

Social disintegration affects different segments of the community in different ways. The transient population is integrated into the community on a fleeting basis only. This problem is especially acute among the workers at the various seafood processors and who have virtually no social interaction with the rest of the community. Many transients find the experience of living in Unalaska to be a strain on their personal ties. Family, and especially marriages are stressed. Many transients come to Unalaska expecting a socially fragmented transient community, and are drawn by their previous experiences or personalities; other new residents may experience personal disintegration as a result of being unprepared for the living conditions in the community. For those used to the social variety offered by urban areas, the level of activity in Unalaska can be disheartening, which results in feelings of isolation and despair that, if unchecked, may result in more serious disorders. There are some indications that because of a smaller and more stable workforce at the processors than in previous years, that these problems are lessening. This is due primarily to the fact that the vast majority of the workers are now return hires, a situation quite unlike the peak years of the crab boom.

In recent years, there has been a problem of individual workers from boats becoming stranded in Unalaska, and there is no service entity in the community that can provide for the expensive transportation out of the community. Stories are common in the community of individuals who worked on boats for a share of the profits rather than fixed wages, and if the boat did not make money, they were stuck in the community with no job, no resources, and no way to leave. One entity that served these individuals, known as the Lighthouse, was closed recently. Operated in conjunction with the Unalaska Christian Fellowship, Lighthouse was an informal shelter for individuals in need of emergency housing. Working out of the former Jesse Lee Home building (now owned by a private individual who donated the use of the structure to the Unalaska Christian Fellowship), the Lighthouse originally focussed on needs of individuals in Fellowship congregation who were in need of a home environment, before changing to a stronger focus on outreach to any homeless individuals who were stranded in Unalaska. At one recent peak of operation, while Lighthouse was housing 18 live-in persons on a short-term basis until they could "get back on their feet," they took in an additional 25 stranded/homeless persons on an immediate emergency basis. As the only place for these people to turn, the Lighthouse had difficulty saying no to such obvious needs, although according the person who ran the house, it was an extremely stressful situation. According to this person, a typical stranding scenario involved a person being hired on in Seattle for work on the line in a factory trawler, they would work for a period of time on the basis of share in the profits of the ship minus room and board expenses, and after a period of considerable time, up to several months, of working long shifts, would put into Unalaska. If it was obvious that the individual would make little, if any, money even if they completed their employment contract, they would jump ship in the community. This individual would then be flat broke, have no place to stay, and no way to purchase an airline ticket out of the community. In some cases, these individuals even owed their former employers money, if meager profit shares did not cover

room and board expenses. Reportedly, the situation of stranded individuals occurred seldom if at all with the workers at the shore-based processors, because they are compelled to pay a fixed wage rate, and provide housing in the community for employees. (Several persons in service provision positions in the community commented on how local services are differentially utilized by employees (or former employees) of the offshore fleet, that is, to a greater extent than those associated with shore-based operations which, ironically, pay for such services through a variety of taxes.) Crew pay disputes have resulted recently local trawler seizures as well (Anchorage Daily News, 12/14/90, page 1).

Unfortunately, the extremely tight housing situation in Unalaska ended the only program that addressed the needs of stranded and homeless individuals. Lighthouse closed down in the past year when the owner of the building could no longer afford to donate its use to the Unalaska Christian Fellowship, as he needed it to house employees when no other quarters could be located in the community. Individuals still find themselves stranded and temporarily homeless in the community, but to date the community has not come up with a solution to this ongoing problem.

Permanent residents of Unalaska experience a different set of social problems. During field research in the community on several occasions over the past decade, older long-term residents repeatedly commented upon the increasing fragmentation and disintegration of the community. Contemporary Unalaska is seen as a less cohesive community than it was before the crab boom, and much less cohesive than it was before World War II. With the large-scale influx of (former) outsiders, new networks have grown at the expense of older ones. Additionally, there is the conflict of values that has accompanied growth, as the newcomers have been of a different cultural orientation than established residents. Social disintegration has been compounded by personal disintegration, and vice versa; when individuals experiencing difficulty attempt to access a traditional support system that is itself breaking down, both personal and social problems grow. The thrust of formal efforts to deal with social and personal disintegration in the community have taken the form of counselling and referral. Among the transient residents of the community, those primarily associated with the fisheries, when these types of problems occur they are most often attributed to the atomistic nature of their social relations.

There has also been growing concern in recent years of the changing nature of the physical community itself, and how this has changed the nature of social interactions and the quality of life for older, long-term residents of the community. The downtown area on the Unalaska spit, the oldest residential area of the community, is currently zoned as a mixed residential and industrial area. For many years, the clientele of, and noise generated by, the bar(s) in this section of town have been considered disruptive to nearby residents. More recently, this area has seen high density development, and there is debate over the conflicting short- and long-term planning goals. For example, the recent construction of multi-unit dwellings in the "New Town" section of downtown changed the character of that mini-neighborhood, whose original residents were persons from other, now abandoned, Aleut villages elsewhere on Unalaska and adjacent islands. It should be noted, however,

that there are difficult choices facing Unalaskans in terms of the location of desired projects. Adequate housing is a concern of all segments of Unalaska's population but, understandably, when specific housing projects are planned individual residents are concerned that the project is located somewhere convenient but "not in my backyard." The difficulties of balancing long-term planning goals with immediate needs and economically feasible solutions is recognized as problematic by city officials.

Another factor in the short- versus long-term development priorities difficulty is the perception of some of the permanent residents that short-term residents of the community are willing to incur the remaining residents for specific projects from which they will benefit but not have to pay for in the long run. There is also a perception that economic development of the community in the past has done less than would have been desirable to enhance the quality of life for permanent residents. In this regard, individuals note the lack of permanent positive benefits to the community following the crab boom of the late 1970s and early 1980s. As one city official pointed out, with all of the millions of dollars that passed through the community during the boom, at the peak of which the relatively small community of Unalaska was the number one fishing port in the United States in terms of dollar value of catch landed, the community does not have an up-to-date clinic with the type of comprehensive trauma care facilities that would help not only in the area of patient care but also in attracting and keeping a resident doctor for the community, nor does the community have the resources to construct and maintain such capital improvements as a community library, museum, or recreation center. There is also an increasing sense among some long-term residents that the disparity between the prosperity of some industrial areas, and the lack thereof in some residential areas, is growing. While the unemployment rate for Unalaska's population as a whole is cited at around 2%, there is virtually no unemployment among short- or even long-term transient residents, by definition, as Unalaska is foremost a work site for those individuals, and when employment opportunities lessen, they leave the community. In other words, what unemployment (and underemployment) does exist in the community, while at a low rate overall, is not randomly distributed among the population but, rather, is concentrated among a relatively small segment of the population.

c. Projected Service Demands and Resources

During the last extended field research in the community, it was widely felt that service demand significantly exceeded the resources available to address the problems in several areas, and this still appears to be the case as of 1990. The most strongly felt needs were in the areas of alcohol abuse and domestic violence. Two groups have arisen and maintained themselves in the community in order to address these problems. One of the attempts to bridge the gap was through the formation of the local crisis committee that has become involved in cases of child abuse, helping to find foster homes for children on short notice, and assisting local families with crisis management and planning. The individuals involved with the committee are highly motivated as they perceive themselves as preventing the

removal of children from local families to other parts of the state by outside authorities - a practice which was not uncommon in the past. Another group formed from grass-roots perceptions of local social problems was Unalaskans Against Sexual Assault and Family Violence (USAFV). This group provides a crisis hotline service and is involved in counselling efforts. Demand for USAFV services have risen dramatically since its inception, and as of 1990 its safe homes program and advocacy training were experiencing a high level of utilization. Both of these groups formed as a result of (a) a perception of significant social problems and (b) the inadequacy of existing formal resources to deal with them. It is not expected that service demands will decrease, or resources will increase, anytime in the foreseeable future to the point where social services needs will be adequately met by formal agencies. With an APIA grant for substance abuse prevention, a "Natural Helpers" program was founded in the community, and this may be seen as another example of service provision moving away from city government, which took care of a large array of services in the not-too-distant past, and into the hands of other entities.

A substantial number of residents believe that child care services in Unalaska are lacking. No support group exists for single or working mothers and no form of day care exists, which poses problems for many, especially those who are not permanent residents and who do not have the support of extensive kinship and long-term friendship ties in Unalaska. The lack of day care is also a hardship for two-parent permanent resident families where both parents work.

d. Health

There are two organizations which oversee the provision of health care in Unalaska. The Health and Human Services Board of the city of Unalaska is composed of individuals appointed by the city council. This board advises the city on health issues not directly related to clinical care, such as pollution, sanitation, and rat control. The clinic is run by another body, known as Iliulik Family and Health Services, Inc., which is a non-profit organization. This corporation is run by an eleven member board and, although it is a "private" corporation, it is responsive to public opinion and attempts to closely reflect the priorities of the community. The board is not paid, and its responsibilities include determining health care and staffing needs, and setting clinic policy.

During the early 1980s Unalaska received a resident physician. Prior to this, the community was served by a physician's assistant. This physician remained in the community for three and a half years (Professional Growth Systems 1990:15). Currently the clinic has a contract with a group of emergency medicine physicians from Anchorage that oversee the medical management of the clinic. The clinic is staffed on a permanent basis by two physician assistants, along with an administrative support staff.

Utilization of the clinic's facility has increased with the expanding population and frequent fishing fleet stops at Unalaska. Volume has grown from an average of 185 visits per month

in fiscal year 1988 to 742 in fiscal year 1989, an increase of 400% (Professional Growth Systems 1990:15). Individuals from the fishing industry utilize a disproportionate share of the services at the clinic because of the industry's high accident rate. The figures are discussed below, in the section on emergency services. Basic clinic utilization for 1987-1989 is shown in Tables 38 and 39 below:

Year	Clinic Visits	Emergencies	Medical Evacuations
1987	6,491	491	44
1988	6,651	818	154
1989	8,906	1,078	58

Source: Iliuliuk Clinic, PGS Inc. (Cited from Professional Growth Systems, Inc. (1990:16))

Total Visits	8,906
Appointments	7,828
Emergencies	1,078
Ancillary Volumes	
Lab Tests	3,970
Radiology Exams	2,975
Pharmacy	12,497
Medical Escorts	58
Stabilizations	45

Source: Iliuliuk Clinic, PGS Inc. (Professional Growth Systems 1990:16).

Funding for the clinic comes from a variety of sources, including the Alaska Native Health Center, donations from fishermen who visit Unalaska, and the city of Unalaska, but most of the funds come from patient fees. There is some dissatisfaction with the current health care system, and most of the problems arise from the a lack of enough qualified personnel to meet the demands of a rapidly growing community, and the high cost of health care. There is also some dissatisfaction in the community that the city of Unalaska will not adopt health powers as part of its municipal responsibilities. In fact, this issue is due to come before the city council for further consideration in early 1991. The lack of a physician in the community has caused a good deal of concern about the difficulty of access of in-depth prenatal care. Also due to the lack of a physician, children are not born in the community on a routine basis. Instead, expecting mothers must fly to Anchorage sufficiently ahead of their due date to insure safety (and to comply with air carrier regulations). This typically

translates to one month ahead of the expected date of delivery. This, of course, causes significant expense for lodging and care in Anchorage, not to mention the difficulties associated with family disruptions if the woman has other children.

One of the functions of the newly-formed Qualingin Tribe has been to address some of the health care needs of Unalaska's Aleut residents. It now administers the community health aide and community health representative programs, and coordinates the visits of the Alaska Native Health Service doctor to the community. Through this program, screening is provided for ANS billing purposes, and patients whose needs cannot be fully addressed by the health aides are referred to the clinic. Through the referral process, patients are able to avoid a formerly common problem of variation in the availability of health care based on the status of the clinic's monthly billing cycle. Additionally, in some cases if the patient has to seek medical help outside of the community, it can be arranged directly through the Native health program, thereby saving the community clinic some expense.

One component of emergency care needs in the community is provided by the Unalaska Volunteer Ambulance Service, which operates under the auspices of the Emergency Medical Services Division of the Unalaska Department of Public Safety. According to a report submitted by the administrator of the ambulance service, out of a total of 128 incidents reported in 1988, the two most frequent locations of the incidents were on a boat or ship (86 or 67.2%) or in a processing facility (13 or 10.1%). In addition, out of 166 total patients cared for in 1988, 89 (53.6%) were out of state U.S. residents and 42 (25.3%) were foreign residents. These statistics are testimony to the health risks encountered by workers in the fishing industry in Unalaska and the fact that this sector of the population accounts for a disproportionate share of the demand for emergency services.

One continuing problem of medical service provision in the community is the inability of any organization in the community to provide air transportation for individuals who need it for a variety of reasons. Medevac flights are enormously expensive, and even for a medical emergency that is not immediately life-threatening and that allows the patient to travel on a commercial flight, there is a seven-to-ten day processing period through the state for funding for the \$460 one-way ticket. This, of course, does not cover the cost of returning the patient to the community.

B. Sociocultural Values

1. Religion

There are three major components to the religious structure of Unalaska, each associated with a segment of the population. First is the Russian Orthodox church, which is associated with the traditional Aleut community. Second is a group of Western Christian (and one eclectic) churches, most visibly represented in Unalaska by the Unalaska Christian Fellowship, associated primarily with recent non-Aleut immigrants. The third segment is

a secular belief system adhered to by another large portion of the recent non-Aleut immigrants to the community (Downs 1985:324).

a. History of Churches

The Russian Orthodox church is the oldest of the contemporary churches in Unalaska. Named the Church of the Holy Ascension, it was originally constructed in 1820. It has served the community ever since and has provided a locus of social organization and identity for the Aleut population. Originally an externally introduced structure and set of beliefs, the Russian Orthodox church has come to be regarded as an Aleut institution, with an Aleut clergy and an Aleut congregation.

The first priest of Unalaska, Ivan Veniaminov, with the assistance of locals, composed the first Aleut writing system, and translated scripture into Aleut. Intersecting with this is one of the basic tenants of the Russian Orthodox church -- that belief is to be fostered in the language of the converts. Through these circumstances and, no doubt, several others, the Russian Orthodox church has remained strong in the community, although this strength may not always be apparent from the weekly attendance at services. Aleuts were not forced to give up either their language or their indigenous belief system, which was incorporated into a comprehensive belief system, and virtually all Aleuts in the community today are at least nominal church members. Though still a central institution in terms of identity, the Russian Orthodox church has lost its centrality as the locus of political and educational institutions of Unalaska.

Later mission efforts were decidedly less successful among the Aleuts of Unalaska. Often associated with the American school system, these missions emphasized the renunciation of Aleut culture and language and, indeed, punished their persistence in the schoolroom. The Russian Orthodox church, on the other hand, preached a doctrine of the basic dignity of mankind and diverse cultural systems, and fostered an Aleut as well as a Russian literacy.

Historically, a Methodist mission played a major role in the community. There was one period during which this organization controlled several community institutions. Run by the Women's Home Missionary Society of the Methodist Church, this group operated a local school, a small clinic, and the Jesse Lee Home for orphans from 1890-1925 (the Jesse Lee Home subsequently moved from Unalaska).

b. Contemporary Churches

As noted, the Russian Orthodox church continues to play an important role in the contemporary community. The major Western Christian church in the community today, the Unalaska Christian Fellowship (UCF), has a direct link to the Methodist mission through the continuing presence and influence of the family of the last Methodist missionary

to the community. The UCF is non-denominational, although in the recent past the group was an Assembly of God mission. The congregation is an active one, with approximately 75 to 80 regular members. There are three relatively distinct groups within the congregation: a group of non-Aleut permanent residents of the community (there is only one active Aleut family in the congregation); young people who periodically come to Unalaska to perform community service under the auspices of the UCF and to aid in the work of the UCF itself; and, a group of long- and short-term transients who make up the bulk of the congregation, most of whom are associated with the seafood processing industry. The UCF is the only religious organization in the community that actively involves this latter group. These workers are often drawn to the social life that the UCF offers, in that they are in a strange environment, far from home, and typically without social ties. The UCF is very active in its efforts to recruit new members, which makes it unique among the churches of Unalaska, and arouses the concern of some of Unalaska's secularly-oriented individuals. Until very recently, leadership of the UCF was provided by a resident minister who enjoyed considerable support from the community. He provided support and counselling on social and psychological problems for congregation members and, occasionally, for non-members who were referred by health care or public safety personnel. Whether a change in ministers will alter the role of the UCF in the provision of social services in the community remains to be seen. Over the last several years, the UCF has been active in sponsoring recreational sports teams and social activities that provide a number of contexts for UCF members to interact with each other as well as with visitors from other segments of the community.

There are three other Western churches represented by active congregations in Unalaska besides the Unalaska Christian Fellowship. These are the Roman Catholic Church, the Church of Jesus Christ of the Latter Day Saints, and the Baha'i Fellowship.

The Roman Catholic church is represented in Unalaska by the Saint Christopher by the Sea Mission. The church is administered by the a Pastoral Administrator, as there is no clergy assigned to the community. The congregation does not have its own church building, but rather holds Saturday night services in the community church (more commonly known as the Unalaska Christian Fellowship church, and it is not uncommon to have members of the UCF attend these services). Sunday morning and evening services are held in the Intersea (formerly UniSea) Mall. Activities of the Catholic church in the community have grown in the past several years and, as a result, there is more of a distinction between the congregations of the Unalaska Christian Fellowship and the Saint Christopher by the Sea Mission than there was in the past. There remains, however, a good deal of overlap in the social networks of the two congregations, and in most contexts, particularly in contrast to either the Russian Orthodox church or the secular community as a whole, they may be considered one group.

There is a small Mormon (Church of Jesus Christ of the Latter Day Saints) congregation in Unalaska. Sunday worship services are conducted at the high school. Congregation members have not been successful at obtaining funding for the construction of their own

building from their parent church because they have not been able to sustain weekly attendance minimum requirements.

The small Baha'i fellowship in Unalaska began as a mission in 1957 and its members were key individuals involved in the establishment of one of the first shore-based crab processing plants in the area. Membership peaked in the 1960s and reached a low point in the late 1970s. A slight resurgence of activity followed, and at present members get together weekly on Tuesday evenings for Fireside Meetings.

For many in Unalaska's population, religion plays little or no role in their social lives or in the social groups in which they participate. "Secularism" for some residents in Unalaska has taken a particular form because the Unalaska Christian Fellowship in the past has, to a certain degree, served to polarize the religious and non-religious segments of the community through exercising a measure of political power. For those attracted to Unalaska because of the "frontier" qualities of the community, and the individual freedoms associated with those qualities, the thought of local ordinances and policy based on a rigid moral code has proven unpopular.

In summary, the religious institutions of Unalaska are a dynamic force in the social life of the community and reflect its diverse composition. The Russian Orthodox church has served as an important marker of Aleut ethnic identity in recent times, and in the past served as a repository for the preservation of Aleut language and beliefs while acting as a shield against the worst excesses of Russian trappers and traders and later American missionaries and educators bent on the destruction of all things Aleut. While the Archpriest of the local church is an Aleut, a relatively new priest in the church is a non-Aleut who first joined the church as a community resident prior to studying for the priesthood. Although generally well-accepted, the fact that this individual is non-Aleut has caused some discomfort among a few older parishioners. The Unalaska Christian Fellowship has grown to fill the social needs created by the rapid growth of a community now composed primarily of individuals with a dearth of kinship ties or common background, while other, smaller, religious groups serve the needs of other segments of the community.

2. Views on Resource Management

a. Mineral Resources (nonrenewable)

There is evidence to indicate that perceptions of the desirability of offshore oil development are, at least in part, variable with the relative health of the local fisheries-based economy. During the growth years of the very early 1980s, oil development was perceived as being in possible conflict with the fisheries (all risk and very little benefit); during years of fishery decline in the mid-1980s, oil development was viewed as a means of diversifying a sagging economy that was adversely effecting both municipal and private sector revenues. In 1990, there is little concern over the possible effects of oil development on the community as the

point appears moot, due to the fact that there is little oil-related activity taking place in Unalaska today.

b. Biological (renewable)

Unalaska fishermen, like fishermen elsewhere, often feel that renewable resources are managed in a fashion that is to their disadvantage. The down side of fishery boom and bust cycles that have caused so many difficulties in the community have typically been blamed, at least in part, on ineffective regulation. Typically overfishing of the resource is blamed, not on local fishermen, but on Outside fishermen in addition to the resource managers. Outside fishermen are viewed as having more political clout than locals, and this translates to a competitive advantage in regulation formulation.

c. Local versus Non-Local Control

Unalaskans are often fatalistic about the lack of local control they can exercise over area resources. In the case of oil, for example, "many feel that the hard realities of the situation are that if there is oil present in large enough quantities, the perceived good for the national economy will far outweigh the potential damages to local environmental and human systems. The history of the region does not challenge this viewpoint" (Downs 1985:114-5). In the case of fisheries, the local experience of having the federal government use the Bering Sea fisheries, in the words of one local fisherman, as "political footballs" in international politics to the detriment of local fishermen is something that locals find difficult to accept. It is strongly felt by some local fishermen that federal policy on international fishing issues is based, not on biological criteria or criteria that would benefit American fishermen, so much as it is based upon rewarding or punishing foreign governments for cooperation (or lack thereof) in other areas of international interactions.

One example of Unalaska extending local political control is found in the municipal annexation of the Unalaska Bay area March 1986 for the purposes of exerting regulatory control over, and gaining revenue from, the area. The incentive for this annexation was provided by three sources: (1) the practice of some seafood processing companies anchoring their floating processors just outside of the city limits in the bay while actively processing, thus avoiding local restrictions on discharge of waste as well as liability for local taxation; (2) the construction of an oil support facility in Captain's Bay just outside of the city limits, the location of which many residents felt was chosen in an attempt to avoid local taxes while retaining the advantage of access to the city's infrastructure; and (3) the practice of oil

companies of anchoring drilling rigs in the bay outside of city limits, which gave the city no regulatory control over their placement.¹³

Local versus non-local control is an emotionally charged issue in Unalaska, and not just for resource issues. By the end of the 1970s, Aleuts were in the minority of the community's population because of the dramatic growth of the community that resulted from the boom in the fishing industry. This fact is noted in the other, more predominantly Aleut, communities of the region, and Unalaska is a popular example of what can go wrong with rapid development. While it is the case that other communities in the region clearly desire much of the economic success that Unalaska has enjoyed, these communities, such as St. Paul for example, strongly desire to see local economic growth take place at such a pace and be managed in such a way that existing community residents control the direction of development. The way that St. Paul managed locally based oil exploration activities in 1984-85 by means of enclave development (Impact Assessment 1987), and the way it is attempting to manage fishery development, attest to this strategy. In this context, officials in St. Paul have stated "we don't want to be another Dutch Harbor" by way of expressing the negative perception of loss of control over a community by the indigenous population during rapid development coupled with an influx of outsiders.

3. Subsistence Activity in the Community

a. Sociocultural and Historical Significance

Subsistence resource utilization is most closely associated with the Aleut portion of Unalaska's population, but many of the semi-permanent and long-term transient residents of the community participate in subsistence activities and, indeed, cite this engagement as one of the pleasures of moving to and staying in the community.

Subsistence was the sole basis of livelihood prior to contact and continues to be practiced. Intertidal animals are popular subsistence foods. Clams are taken, but with the increased industry and population near the town's beach, they are becoming scarce. Sea urchins (locally known as "sea eggs") are eaten, as are chitons (locally known as "bidarkies") and mussels. Dungeness crabs are a delicacy and are taken from shore with rakes at low tides during those periods in the crab's life cycle when they move inshore. Crabs and shrimp are

¹³In 1985 an oil-fishery conflict came to a boil when an oil drilling rig was anchored in the bay directly on top of an active halibut fishing ground during the short halibut season. It was an area where some local small boats (which are not seaworthy enough to go out into unprotected waters outside of the bay) intensively fish, and while individuals from Unalaska were trying to resolve this conflict, large capacity fishing vessels from outside the area filled the halibut catch quota before the oil rig moved on. According to local residents, the oil company was very unresponsive when informed of the problem; its position, reportedly, was that the city had no control over that area, and therefore the oil company could do as it pleased. This incident helped prompt the push for city annexation of Unalaska Bay.

also fished for using pots set out by skiff in the bay near the townsite. Several species of finfish are the center of much activity. The several salmon species are the focus of the most intense interest, and are fished by line in the town creek, and by net in various bays in the area. Salmon fishing activity is episodic, coinciding with the salmon's reproductive runs into the various freshwater creeks. Locally, King Salmon are present from February through April, and red salmon are available from mid-May through the end of June. The largest salmon run in Unalaska is pink salmon, which occurs from mid-June through the end of October. Salmon fishing is often a communal activity. Two or three people are needed to efficiently work a small net out of a skiff, and members of more than one family often share a smokehouse and labor to cure the fish. Relatively large-scale subsistence fishing is more common among Aleuts than non-Aleuts, though there are notable exceptions, primarily among permanent residents. In addition to being eaten fresh and smoked, salmon are also preserved through salting, drying, freezing, and canning. Cod and halibut are fished for year round using line in several local bays. Virtually all of the owners of the 20 or so skiffs in Unalaska use them for halibut fishing, and halibut are taken with single baited hooks using poles or with halibut skates which may have as many as 50 hooks. Cod are taken at the same time as halibut, but they are not as popular or plentiful. Other fish species taken more or less commonly locally include pogy, sea bass, pollock, and flounder, and these are most often taken when individuals are fishing for halibut or cod. Several families maintain subsistence cabins on smaller bays within Unalaska Bay, and these are used as fish camps, among other things. Subsistence fishing is not, however, limited to Unalaska Bay. For example, Wislow, located on Reese Bay on the Bering Sea side of Unalaska Island to the northwest of Unalaska Bay, is a popular subsistence fishing location.

One of the few absolute distinctions today between Aleuts and non-Aleuts with respect to subsistence resource utilization occurs in the case of hunting marine mammals. Non-Natives are barred by federal law from taking marine mammals. Marine mammals were a cornerstone of the subsistence economy of precontact life, and their use has continued, particularly the use of seals and sea lions.¹⁴

Land resources are used much less extensively for subsistence than are marine resources, but are still the focus of significant effort. The most popular are berries, and berry picking on summer days is a frequent individual or social activity involving most community residents. Blueberries, mossberries, lingonberries, and salmonberries are the most common.

¹⁴Prior to the passage of the Marine Mammal Protection Act in 1972, several non-Aleuts were among the most active hunters of harbor seals in Unalaska. As was the case with Aleut hunters, the meat of these seals was shared with others in the community, with special consideration being given to the provision of meat to older Aleuts (LAI 1986:110). Veltre and Veltre (1982) estimated that there were about a dozen active Aleut sea lion hunters in Unalaska in the early 1980s, and estimates of their yearly take ranged from 5 to 50, with the most frequent figure being around 20. During the winter, most of the sea lion hunting is done around Unalaska Bay itself, but during summer months more distant rookeries and hauling areas are sometimes hunted. Harbor seals are not as well-liked as sea lions, and many of the 20 or so harbor seals that are taken annually are taken on hunts when no sea lions were found (LAI 1986:110).

Other plants utilized include wild celery (locally known as "pootchky") and petrusky, which is widely used locally as a seasoning. Wild bird eggs are apparently gathered by few, if any, people today. Bird hunting is popular with some individuals, and most species hunted are various species of ducks and geese, although ptarmigan are also taken. As of the mid-1980s approximately 50 duck stamps were being locally sold each year (IAI 1986:111).

For the Aleut portion of the population, subsistence has taken on important symbolic value in addition to the physical sustenance it provides. With the population increase that accompanied the growth of the commercial fisheries, the Aleuts, for the first time since the war years, were a minority in what was traditionally an Aleut village. In this atmosphere, subsistence pursuits have become part of a response reaffirming an Aleut ethnic identity and traditional value system in what can be an undesirable social context. In this way, individuals engaging in the activity not only get the benefit of the resources themselves, but also enjoy the sense of well-being that accompanies it. The redistribution and sharing of subsistence resources, unlike the pattern of redistribution of money in the local economy, also reinforces group ties among Aleuts and other permanent residents. Subsistence pursuits, while representing a continuity with the past, are also markedly different from the past. Methods have changed, the particular species pursued have changed, and, perhaps most importantly, the reasons that people engage in subsistence has changed.

To get an idea level of effort of Unalaska residents' participation in subsistence salmon fishing, both in absolute and relative terms, the tables below (Tables 40 - 47) show estimated subsistence salmon catches for 1986-1989 for various communities in the Alaska Peninsula area as well as for the community of Unalaska.

Table 40
Alaska Peninsula Estimated Subsistence Salmon Catches, 1986

Community	Permits		Percent Returned	Projected Catch (Fish)					
	Issued	Returned		Kings	Sockeye	Coho	Pink	Chum	Total
Sand Point	75	36	48.0	45	2,505	1,208	1,560	1,005	6,323
King Cove	24	21	87.5	2	1,834	919	14	120	2,889
Cold Bay	18	14	77.8	0	184	264	14	26	488
False Pass	12	9	75.0	13	158	215	188	299	873
Nelson Lagoon	9	7	77.8	13	284	302	3	5	607
Port Heiden	4	4	100.0	28	282	0	0	0	310
Miscell.	5	4	80.0	0	149	88	0	0	237
Total Ak. Pen. Area	147	95	64.6	101	5,396	2,996	1,779	1,455	11,727
Unalaska	121	22	18.2	0	3,449	847	2,468	375	7,139

Note: The above includes only information obtained from the subsistence permit system. Information from returned permits is used to extrapolate the catch from all permits issued.
Source: Alaska Department of Fish and Game.

Table 41
Alaska Peninsula Area
Estimated Subsistence Salmon Catches, 1987

Community	Permits		Percent Returned	Projected Catch (Fish)					
	Issued	Returned		King	Sockeye	Coho	Pink	Chum	Total
Sand Point	84	62	73.8	87	2,018	1,508	1,160	1,114	5,887
King Cove	39	28	71.8	3	2,320	1,662	206	334	4,525
Cold Bay	30	24	80.0	0	620	155	13	54	842
False Pass	12	9	75.0	14	103	443	163	389	1,112
Nelson Lagoon	10	9	90	22	245	254	5	14	540
Port Heiden	10	7	70.0	66	193	229	0	36	524
Miscellaneous	6	5	83.3	1	278	8	0	2	289
Total Alaska Pen. Area	191	144	75.4	193	5,777	4,259	1,547	1,943	13,719
Unalaska	81	49	60.5	0	1,097	378	1,780	151	3,406

Source: Alaska Department of Fish and Game.

Table 42
Average Subsistence Salmon Catch Per Successful Permit, 1987

Community	Kings	Sockeye	Coho	Pinks	Chums	Total
Sand Point	1.5	34.8	26.0	20.0	19.2	101.2
King Cove	0.1	80.0	57.3	7.1	11.5	156.0
Cold Bay (Local)	0	30.8	8.6	0.7	2.9	43.0
Cold Bay (Non-Local)	0	16.5	0	0	0.5	17.0
False Pass	1.3	9.4	40.3	14.8	35.4	101.2
Nelson Lagoon	3.2	35.0	36.3	0.7	2.0	77.2
Port Heiden	6.6	19.3	22.9	0	3.6	52.4
Unalaska	0	25.5	8.8	41.4	3.5	79.2

Source: Alaska Department of Fish and Game.

Table 43
Alaska Peninsula Area
Estimated Subsistence Salmon Catches, 1988

Community	Permits		Percent Returnd	Projected Catch (Fish)					
	Issued	Returnd		King	Sockeye	Coho	Pink	Chum	Total
Sand Point	74	52	70.3	146	2,694	853	1,326	1,175	6,194
King Cove	28	10	35.7	3	555	2,855	265	43	3,721
Cold Bay	24	9	37.5	0	737	66	2	0	805
False Pass	10	7	70.0	11	401	834	29	192	1,467
Nelson Lagoon/ Port Moller	13	9	69.2	26	284	184	0	25	519
Port Heiden	10	9	90.0	69	268	134	23	105	599
Sub-total	159	96	60.4	255	4,939	4,926	1,645	1,540	13,305
Non Local Ak. Residents	24	18	75.0	2	526	720	21	152	1,457
Total Ak. Pen. Area	183	114	62.3	257	5,501	5,646	1,666	1,692	14,762
Unalaska									
Local Res.	74	43	58.1	1	962	390	2,626	83	4,062
Non Local Ak. Residents	3	2	66.7	2	4	0	1	0	7
Total Unalaska	77	45	58.4	3	966	390	2,627	83	4,069

Source: Alaska Department of Fish and Game.

Table 44
Average Subsistence Salmon Catch Per Successful Permit, 1988

Community	Kings	Sockeye	Coho	Pink	Chum	Total
Sand Point	3.2	52.7	15.8	25.1	22.4	119.2
King Cove	0.1	22.2	114.2	10.6	1.7	148.8
Cold Bay	0	34.6	3.1	0.1	0	37.8
False Pass	1.2	44.5	92.7	3.2	21.3	162.9
Nelson Lagoon/Port Moller	2.9	32.0	20.4	0	2.8	58.1
Port Heiden	9.8	38.3	19.2	3.3	15.0	85.6
Unalaska	0	18.5	7.5	50.5	1.6	78.1
Non Local Ak. Residents	0.2	30.4	3.9	1.1	8.1	43.7

Source: Alaska Department of Fish and Game.

Table 45
Alaska Peninsula Area
Estimated Subsistence Salmon Catches, 1989

Community	Permits		Percent Returned	Projected Catch (Fish)					
	Issued	Returned		King	Sockeye	Coho	Pink	Chum	Total
Sand Point	86	63	73.3	53	6,347	1,050	731	1,149	9,330
King Cove	39	25	64.1	3	1,982	1,973	294	690	4,942
Cold Bay	18	13	72.2	0	231	55	4	22	312
False Pass	7	4	57.1	41	336	100	175	47	662
Nelson Lagoon/Port Moller	93	9	100.0	21	250	227	0	11	509
Port Heiden	4	4	100.0	79	222	28	1	4	262
Sub-total	163	118	72.4	885	9,368	3,433	1,205	1,923	16,017
Non Local Ak. Residents	25	21	84.0	0	1,036	72	8	181	1,297
Total Ak. Pen. Area	188	139	73.9	887	10,404	3,505	1,213	2,104	17,314
Unalaska									
Local Residents	70	41	58.6	2	1,064	470	1,292	36	2,964
Non Local Ak. Residents	4	1	25.0	0	48	0	0	0	48
Total Unalaska	74	42	56.8	2	1,112	470	1,292	36	2,912

Source: Alaska Department of Fish and Game.

Table 46
Average Subsistence Salmon Catch Per Successful Permit, 1989

Community	Kings	Sockeye	Coho	Pink	Chum	Total
Sand Point	0.7	83.4	13.8	9.6	15.1	122.6
King Cove	0.1	60.8	61.0	12.0	21.2	155.1
Cold Bay	0	18.6	4.4	0.3	1.8	25.1
False Pass	0.7	64.0	19.0	33.3	9.0	126.0
Nelson Lagoon/Port Moller	2.3	27.8	25.2	0	1.2	56.5
Port Heiden	2.3	74.0	9.3	0.3	1.3	87.2
Unalaska	0	21.5	9.5	26.1	0.7	57.8
Non Local Ak. Residents	0	55.3	3.8	0.4	9.7	69.2

Source: Alaska Department of Fish and Game.

Area	1984	1985	1987	1988	1989
City/Kodiak	657	1,075	1,275	1,075	1,146
Akhiok	0	0	0	0	0
Karluk	0	0	1	2	0
Larsen Bay	2	4	7	7	1
Old Harbor	2	13	6	5	6
Ouzinkie	6	15	11	17	13
Port Lions	24	24	33	42	23
Chiniak/Psagshak	0	0	10	13	26
Kodiak USCG	368	429	244	298	238
Other Kodiak	3	8	8	9	10
Chignik	0	0	0	2	0
Perryville	0	0	0	0	0
Ivanof Village	0	0	0	0	0
King Cove	0	2	1	0	2
Sand Point	13	23	10	29	18
Other Chignik/S.P.	0	0	0	0	0
Dutch Harbor/Unalaska	31	32	10	22	1
St. Paul	0	0	0	0	0
Other Aleutians/Bering Sea	0	0	4	1	3
Alaska/Other than Westward	33	48	68	58	53
U.S./Other than Alaska	30	45	21	32	33
Foreign	0	2	0	1	0
Total	1,169	1,720	1,709	1,613	1,573

Source: Alaska Department of Fish and Game.

Table 48 presents information on the number of subsistence shellfish permits issued to Unalaska residents. No harvest level estimates are available.

Community	1988	1989	1990
Unalaska/Dutch Harbor	69	68	58

Source: Alaska Department of Fish and Game.

b. Relationship of Subsistence to Commercial Fishing

Historical Relationship

Subsistence patterns in Unalaska have changed much over the years as commercial trends have come and gone, and they are drastically changed from precontact times. In the local depression following World War II, there was a marked increase in dependency on

subsistence products. Most important of these was salmon, although many other resources were used as well. This pattern of dependency declined with the advent of the contemporary fisheries in the 1960s and the 1970s, and the transition to a wage labor economy. For example, in the 1950s and into the 1960s, some individuals were still using prepared sea lion stomachs as storage containers, and other waterproof articles were made out of seal gut. No one in the community practices this any more. Subsistence resource harvesting and processing for consumption and sharing, however, remains an important component of local life, and the maintenance of subsistence skills may be viewed as a positive adaptation of the historically unstable commercial economy. In a different trend, some local resource utilization has taken on a more purely symbolic note than was the case in the past. For example, grass baskets are now woven as art objects and as a conscious measure of continuity with a traditional and cultural heritage, rather than being utilitarian objects with artistic themes.

Current Relationship

Subsistence in Unalaska, as in other parts of the state, brings forth complex sociocultural and legal issues. There are often legal and regulatory distinctions made between styles of utilization of the same resource. In Unalaska, for example, there are separate permits needed for commercial salmon fishing, subsistence salmon fishing, and salmon sportfishing.

Small scale local subsistence salmon fishermen have been effectively barred from participation in the commercial salmon fishery on continuing basis. The local commercial salmon industry has been through periods of abundance and scarcity in this century. While there are currently not enough salmon in the area to support a large-scale commercial fishery, the seafood companies in Unalaska process salmon caught outside of the immediate area, and buy some salmon that are caught locally. Relatively small runs of fish are not the only impediment to the development of a local salmon fishery; legislative restrictions in the form of limited entry permits have also served to exclude locals. Some individuals who are primarily subsistence fishermen do sell relatively small catches to local processors occasionally, and a number of local commercial fishermen do remove some fish from commercial catches for personal consumption or local sharing, but more common is a pattern of separation of commercial and subsistence pursuits.

c. Relationship of Subsistence to Other Types of Employment

With the commercialization of Unalaska's economy, subsistence has become a supplementary activity and, in most cases, an activity not directly connected with either physical survival or economic well-being. It has become linked, however, with individual and group well-being with reference to an Aleut ethnic identity. It is also an important component to a satisfying lifestyle for individuals more recently moved to the community.

Employers list absenteeism as one of the problems commonly encountered with employing local residents, and at least a portion of absenteeism stems from differential involvement in subsistence pursuits. On any of the infrequent clear, sunny, warm days during a strong salmon run, or during the movement of dungeness crab into shallow water, or during the height of berry season, subsistence-oriented individuals pursue their interests and the town virtually closes down. The philosophy (and reality) seems to be that jobs are steady, but good access to subsistence resources is episodic, and it is best to seize opportunities when they arise.

Interestingly, the largest employment group in the community, the seafood processing workers, virtually never engage in subsistence. As the length of residence has extended among processing workers with the changes in the industry, however, it would appear that more processing workers are engaging in local sport fishing than was the case in the past.

d. Relationship of Subsistence to Recreational/Sports Fishing

Few, if any, people travel to Unalaska for the sole purpose of participating in recreational sports fishing. Recreational/sports fishing is primarily associated with short-term transient residents of the community. Individuals and families who have made their home in the community, whether Aleut or non-Aleut, tend to engage in subsistence fishing rather than sport fishing. Sport fishing tends to be limited to Dolly Varden and salmon, with a much lesser emphasis on halibut; subsistence fishing includes a broader range of finfish and invertebrate species. Subsistence and recreational fishing tend not to compete with one another -- they tend to be done at different sites, by different people using different techniques. While some subsistence fishing is done with rod and line in the same places as sport fishing (most notably the town creek area), this is an exception to the overall pattern. Dolly Varden fishing tends to be popular with persons from nearly all segments of Unalaska's population as the gear used (they are normally fished for with rod and reel) is relatively inexpensive, Dollies are present year round, and Dolly fishing spots are found within easy walking distance of most any area of town.

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**COMMUNITY PROFILE DEVELOPED FOR THE
SOCIAL IMPACT ASSESSMENT OF THE
INSHORE/OFFSHORE AMENDMENT PROPOSAL**

Bellingham, Washington

Submitted to

North Pacific Fishery Management Council

Submitted by

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Table of Contents
Bellingham Community Profile

INTRODUCTION	1
POPULATION	3
Size and Composition	3
Household Size and Composition	6
Educational Status	6
SOCIOECONOMIC PROFILE	7
Economic Profile	7
The Fishery	13
Salmon	13
Other Species, Other Fisheries	19
The "Typical" Bellingham Fisherman	19
Infrastructure	22
General	22
Squalicum Harbor	23
SOCIOCULTURAL PROFILE	25
Social Organization	25
Sociocultural Values	25
REFERENCES	27

BELLINGHAM, WASHINGTON

I. INTRODUCTION

Bellingham is the largest city and the county seat of Whatcom county, in the state of Washington. Bellingham is 89 miles north of Seattle (61 miles north of Everett) and is often termed the first port of call of the fleet from the lower-48 which fishes Alaskan waters. Whatcom county is located in the northwest corner of Washington State. The eastern part of the county is mountainous terrain and much of it is reserved as park land or wilderness area. Most of the population of the county lives in the western part of the county. Good roads connect Bellingham to Canada to the north and Seattle (and Oregon) to the south.

Historical patterns and influences on population can be summarized using Kamimura and Bailey 1990, Edson 1968, and Koert and Biery 1980. The first inhabitants of this area were the Native Indians whose first contact with Europeans was some time in the late 1700s. In the first half of the next century the primary non-Native use of the area was for trapping and there were few, if any, non-Native residents. By the middle of the 1800s, however, most of the area had been trapped out and Euro-Americans had begun to settle the Bellingham area, with Whatcom county being formed in 1854. The Indian War of 1855-56 resulted in the formation of a number of reservations and a division of fish resources the implications of which are not totally clear (discussed in a later section). The timber of the region supported the growth of a logging and lumber industry, and agriculture also proved to be a stable economic activity. Gold and coal both provided short boom periods followed by economic dislocations when those resources failed.

The period of the railroads began in Whatcom county in the 1870s and 1880s and helped support the coal mining operations and then the logging industry. The first fish cannery was built on Lummi Island in 1886. By 1900 there were twelve canneries employing more than 5,500 people. This was a high point of employment, however, as more efficient methods reduced the number of employees needed and regulations in 1934 banning certain fishing traps reduced the amount of fish caught. The history of the fishery since that time is more appropriately treated in the later section on the fishery. Fishing (and lumber) are significantly less important sectors of the economy now than they have been historically. The paper, oil refining, chemical, and food processing industries have taken more predominate roles. Small- to moderate-scale light manufacturing is also an increasing component of the local economy. The largest recent economic gains have been in the retail trade and service components of the economy. These are now the most dominant parts of the local economy.

The New Whatcom Normal School (now Western Washington University) was built in the period 1895-1899, and opened 1899. Whatcom Community College opened in 1970. Together they employ a great number of people and attract a large (and transitory) student body. Government has also become a large local economic force. Tourism and recreation are also important sectors, especially since Bellingham has become the southern terminus of the Alaska Marine Highway System (ferry port). This and the amount of traffic from Canada, sparked by a relatively good exchange rate and the availability of goods in Bellingham, has supported strong growth in the retail sector, and especially in the development of local shopping malls.

II. POPULATION

A. Size and Composition

Much of the information that is available in the literature concentrates on Whatcom county. As Bellingham is the largest incorporated city in the county and serves as the county seat, it is often, although not always, broken out as a separate category for statistical purposes. Thus, much of the information reviewed in the following outline will be for Whatcom county as a whole, and then interpreted or refocused on Bellingham in particular. As is commonly true of population data, the various sources contain some minor discrepancies. The overall percentages and interpretations, however, are basically the same.

General population information is presented in Table 1. The population of Whatcom county increased by about 43% between 1970 and 1988. During this same period, Bellingham's population increased by about 18%. The unincorporated portion of the county increased in population about 66%. In 1988 the population living in incorporated municipalities was roughly equal to that living in unincorporated areas. It is thought, based on the trends existing in 1988, that less than half of the county's population now resides in incorporated municipalities.

Ethnically, Whatcom county is predominately white, although there are some indications that minority populations are slowly increasing. The most significant minority category for purposes of this report is composed of Native Americans (4 percent in 1989), and they are most significant because of the Boldt decision which allocates Washington state fish resources between Native Americans and non-Native Americans on a 50/50 basis. The implications for this on the Washington fishery, and the effect which this has on the importance of fishing in Alaskan (and Oregonian) waters for non-Native American Washington fishermen is briefly discussed below.

The age structure of the 1989 Whatcom county and Bellingham population is shown in Tables 2 and 3. Information on race of county residents is presented in Table 4; information on sources of population change is presented in Table 5, along with a projection for the year 2000. Taken as a whole, Bellingham seems to have a greater percentage of its population in the ages 15 through 44 than does the county as a whole. Projections for both the city and the rest of the county indicate that the 45 to 64 age group will increase greatly while the 25 to 44 age group will actually decline in numbers, and especially in relative percentage terms (Kamimura and Bailey 1990). Kearney/Centaur Division (1988:2-18) chooses to emphasize that the population has been and is expected to maintain a rough stability between the portion of the population aged 0-17, 18-64, and 65+. Thus it is not clear what to expect in terms of demographic measures such as dependency ratios.

The migration assumptions that these projections make are not clear, as little is known about past migration patterns (age/sex/ethnicity distributions, origins, and destinations). Given no definite force for change, it is expected that migration processes will proceed as

they have in the past. There has been a large net in-migration between 1970 and the present. This net in-migration accounted for 77.4% of the county's population change between 1970 and 1980, and 45.9% of the change between 1980 and 1987. However, there was a net out-migration in the period 1985-1987, although the population forecast is that the pattern of a net in-migration will continue until at least the year 2000 (Table 5).

Community	1970	1980	1982	1984	1986	1987	1988	1989
Bellingham	39,375	45,794	45,950	46,010	46,380	46,360	46,610	47,290
Blaine	1,955	2,360	2,320	2,325	2,380	2,415	2,415	2,470
Everson	633	898	970	1,060	1,120	1,125	1,150	1,230
Ferndale	2,164	3,855	4,120	4,440	4,620	4,680	4,750	4,810
Lynden	2,808	4,028	4,250	4,430	4,550	4,690	4,780	4,840
Subtotal	46,935	56,935	57,610	58,265	59,050	59,270	59,705	60,640
Unincorporated Areas	35,003	49,766	53,490	55,435	57,650	57,930	59,395	61,560
Total	81,983	106,701	111,100	113,700	116,700	117,200	119,100	122,200

Source: Whatcom Chamber of Commerce & Industry Business Information Center, 1990 Washington State Employment Security Department.

Year	0-14	15-19	20-24	25-44	45-64	65+	Total
1989	26,002 21.3%	8,934 7.3%	10,837 8.9%	40,294 33.0%	20,242 16.6%	15,890 13.0%	122,199 100.0%
2000	27,618 20.1%	10,465 7.6%	10,881 7.9%	39,807 29.0%	30,325 22.1%	18,293 13.3%	137,389 100.0%

Source: Washington State Office of Financial Management, cited in Kamimura 1990.

0-5	6-13	14-17	18-20	21-24	25-34	35-44	45-54	55-64	65+
4,162 7.4%	4,162 8.8%	2,081 4.4%	3,310 7.0%	4,871 10.3%	9,174 19.4%	6,384 13.5%	3,547 7.5%	3,358 7.1%	6,904 14.6%

Source: 1980 Census updated by Urban Decisions Systems, Inc.

Table 4
Whatcom County Population by Ethnicity

Ethnicity	1970		1980		1986		1989*	
	Number	%	Number	%	Number	%	Number	%
White	79,257	96.7%	100,898	94.6%	109,081	93.5%	113,266	92.7%
Black	201	0.2%	328	0.3%	472	0.4%	424	0.3%
Native American	1,949	2.4%	3,252	3.1%	4,034	3.5%	4,034	3.3%
Asian/Pacific Islander	262	0.4%	909	0.7%	1,330	1.1%	1,445	1.2%
Other	281	0.3%	1,317	1.2%	1,783	1.5%	3,031	2.5%
Total	81,950	100.0%	106,701	100.0%	116,700	100.0%	122,200	100.0%

Sources: Kearney/Centaur Division 1988:2-16
*Gary Kamimura 1990. Whatcom County Profile, Data Appendix. Washington State Employment Security Department: Olympia (in draft).

Table 5
Components of Population Change, 1970 - 1987 & 1985 - 2000 Projection
Whatcom County, Washington

Years	Total Population Change	Births	Deaths	Natural Pop. Increase		Net Population Migration	
				Number	% of Total Change	Number	% of Total Change
1980-1981	2,799	1,669	781	888	31.7	1,911	68.3
1981-1982	1,600	1,692	801	891	55.7	709	44.3
1982-1983	1,000	1,687	897	790	79.0	210	21.0
1983-1984	1,600	1,664	806	858	53.6	742	46.4
1984-1985	2,300	1,606	820	786	34.2	1,514	65.8
1985-1986	700	1,615	907	708	101.1	(8)	(1.1)
1986-1987	500	1,568	807	761	152.2	(261)	(52.2)
1980-1987	10,499	11,501	5,819	5,682	54.1	4,817	45.9
Forecast:							
1985-1990	7,064	8,452	4,510	3,942	55.8	3,122	44.2
1990-1995	7,160	8,324	4,953	3,371	47.1	3,789	52.9
1995-2000	10,140	8,171	5,303	2,868	28.3	7,272	71.7

Source: State of Washington Office of Financial Management. County Forecast Worksheet used in Forecasts of the State and County Population by Year for Selected Age Groups: 1980-2000. Unpublished computer printout, Olympia: 1987.

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B. Household Size and Composition

The U.S. census estimated that there were 27,237 households in Whatcom county in 1970, and 39,630 in 1980. This was an increase of 12,393 or 45.5%. As total population in this period only increased by 29.4%, the size of households thus decreased during this period. The average Whatcom county household size changed from 2.93 to 2.60 persons during this time. The state of Washington Office of Financial Management estimated that in 1987 there were 43,421 households in Whatcom county, an increase of 3,791 or 9.6%. As the total population in this period increased by 10.5%, average household size again decreased, but not by very much (Kearney/Centaur Division 1988:2-19). For 1980, there were 18,204 households in Bellingham with an average household size of 2.3 persons (smaller than for the county as a whole). A more detailed analysis of household characteristics does not appear to be warranted for the purposes of this profile, given the relative lack of ethnic diversity in the population. Description and analysis in terms of socioeconomic class is beyond the scope of this work.

C. Educational Status

The 1980 U.S. census indicates that 76.5% of Whatcom county's population over the age of 24 had at least graduated from high school. The most recent figure is that 78.7% of this age group has graduated from high school. The median number of years attendance at school is 12.8 (1980 Census updated by Urban Decisions Systems, Inc. 1989).

Public high school enrollment for Whatcom county during 1987-88 averaged 5,691, somewhat lower than the 5,775 of the previous year. The drop-out rate for 1987-88 was 5.6% as compared to 4.6% for the previous year (but 6.2% for the state as a whole). During the fall of the 1989-90 academic year there were 2,848 Whatcom county residents enrolled in state-supported community colleges. Whatcom Community College accounted for 2,500 of these. There were 1,895 Whatcom county residents enrolled in state-supported four-year colleges, with the majority at Western Washington University. Of the Whatcom county residents enrolled in collage, about 10% were first-time enrollers who had just graduated from high school (Kamimura and Bailey 1990).

Bellingham has twelve elementary schools, three middle schools, and two high schools. In addition, Bellingham is the site of Bellingham Vocational Technical Institute, Whatcom Community College, and Western Washington University (Whatcom Chamber of Commerce & Industry Business Information Center n.d.).

III. SOCIOECONOMIC PROFILE

A. Economic Profile

The introduction traced a very brief outline of the economic history of Bellingham. Each economic development of the past still exists in the present diversified economy of Bellingham (and Whatcom county), but generally to a far less significant degree. Thus the Indians, who once composed the only population in the area, are now only a very small percentage of the total population, and their involvement in the general economy is somewhat tangential. The one exception to this generalization is the tribal entities participation in local fisheries (mainly salmon), which will be discussed below. Overall, even counting the tribal fisheries, Indian participation in the larger economy is not profound (partly because the fish industry is only one segment among many in Bellingham).

Timber dominated the local economy for a time, and is still a major component of the overall economy. Agriculture was a mainstay for past economies, and is still significant, but again is not the core of the economy. Gold, coal, and railroads were also foci for development in the past, and all have faded in importance. Gold, coal, and railroads are perhaps typical examples of the pattern of Bellingham's past that may favor its present. Much of Bellingham's early history was dominated by various development plans by a group of California land speculators. This group of men purchased most of the land in the area and sought to encourage any development that would increase the value of their holdings. They formed a company for this purpose which is the subject of an interesting masters thesis at Western Washington University library. The growth of Bellingham was fostered by this explicit economic development perspective, although the investment never paid large dividends. Nevertheless, much of the present personality and character of the city seems to have derived from this real estate development past. This is not to say that all people in Bellingham support further development or that they are opposed to the inevitable government role in the planning of development. It does mean that there is a definite speculative/developmental dynamic in Bellingham most often associated with Chambers of Commerce and boosterism (which is represented quite well by Bellingham's latest project, the wooing of the Alaska Maritime Highway System southern terminal from Seattle, which may well be directly comparable in this regard to the development of the railroad in the past.)

The salmon fishery supported and dominated the local economy in the late 1880s and early 1900s. In 1890 only about twenty men were employed in the entire fishery in the Whatcom area, but this rapidly changed. In 1891 there were 108 Indians fishing for the canneries and 80 "Chinese and Indians" working in the canneries themselves. In 1893 the number of cannery employees had increased to 420, 120 of whom were Indians (still mostly as fishermen -- Boxberger 1986:85-86). Boxberger details the development of the salmon fishery in the Bellingham area (from the Lummi Indian point of view) and it is evident that the fishery has remained significant for both Indian and non-Indian up to the present. The Boldt decision will be reviewed when discussing the fishery. The inability of the salmon

fishery alone to support either Indian or non-Indian fishermen, with the subsequent need for fishermen to be flexible and have other options, is one of Boxberger's conclusions that will also be reviewed (1986:298-310). As interesting as this aspect of the fishery is, however, it has only limited pertinence to the issues ultimately to be addressed by this report. The overall relative importance for salmon to the local economy is no longer nearly as profound -- although it is not insignificant and is clearly an important tie to Bellingham's historical and economic past. Salmon also feed the tourist industry and attract sportsfishermen. This will be discussed below.

Paper, oil refining, chemical, and food processing operations have been natural developments from lumber and fish resources. Eventually, they have assumed a larger role in the economy, perhaps due to the "value-added" aspect of their operations. Light manufacturing is also being attracted to the Bellingham area (at least small to moderate scale operations are). The most recent growth sectors in the local economy have been in retail trade and services, which now dominate the local economy. The three areas where this is most observable is in the increased importance of government as an employer in Bellingham, in the prominent and significant place the University occupies in the economy (WWU Library 1983), and in the impact of Canadians using Bellingham as a shopping center for goods not available to them in Canada. Informants consistently remarked on the increase in local retail outlets which they attributed to the presence of Canadian shoppers. Many weekends it is impossible to obtain a hotel room in Bellingham, even though there are many hotels in the area.

As Kamimura and Bailey conclude (1990:6):

These days, Whatcom County's economy is somewhat removed from its traditional industries. Agriculture and fishing -- though still present -- represent a substantially lesser aspect of the local economy than they had in the past. The forest products industry, however, remains a major component in the local economy though it too pales significantly in comparison to its historical presence. Government has replaced more traditional industries as one of the largest sources of jobs in Whatcom County. . . . The sector looms even larger after adding an array of state and local entities . . .

Our main focus will be on the description of the present state of the community, however, and to that end we present the following tables gleaned from several different sources. Table 6 supports most of the generalizations just made. The wholesale and retail sector of the Whatcom county economy is 26.6 percent of the whole. Services make up another 22 percent of the economy, and government is another 19.2 percent. Manufacturing as a general activity comprises just a little over the government sector (but does not include self-employed or certain other workers such as fishermen). Fish industries workers are included in the Food Products group. This group includes much more than simply fish industry workers in Bellingham, but even so is only 3.5 percent of the total wage economy. Thus,

the retail and service (including government and education) sectors predominate and fishing in particular is no longer a major contributor to the local economy. Furthermore, it is projected as an economic sector of very slow growth, so slow that it is expected to decrease in size relative to the other economic categories.

Table 6
Whatcom County Industry Employment
(1987 Estimate, 1993 Projection)

Type of Industry	1987		1993		Percent Change, 1987 - 1993
	# of Jobs	percent	# of Jobs	percent	
Total Nonagricultural Wage & Salary Employment	43,240	100.0	49,310	100.0	14.0
Manufacturing	7,720	19.9	8,480	17.2	9.8
Nondurable Goods	4,050	9.4	4,430	9.0	9.4
Food Products	1,500	3.5	1,550	3.1	3.3
Other	2,550	5.9	2,880	5.8	12.9
Durable Goods	3,670	8.5	4,050	8.2	10.4
Lumber & Wood	1,070	2.5	1,070	2.2	0.0
Other	2,780	6.4	2,970	6.0	6.8
Nonmanufacturing	37,160	85.9	40,840	82.8	9.9
Construction & Mining	2,350	5.4	2,740	5.6	16.6
Trans., Comm., Util.	1,860	4.3	2,170	4.4	16.7
Wholesale & Retail	11,510	26.6	13,390	27.2	16.3
Finance & Real Estate	1,730	4.0	1,890	3.8	9.3
Services	9,770	22.6	11,600	23.5	18.7
Government	8,300	19.2	9,060	18.4	9.2

Source: Annual Demographic Information, LMEA, dated July, 1988.

Tables 7 and 8 are also interesting in this regard. The first lists the ten biggest employers in Whatcom county for 1989, while the second lists the ten biggest industrial firms in 1985. The difference in year is not greatly significant for the comparison, as the firms that appear on both are at about the same size. The intriguing fact is that only three firms appear on both lists (and British Petroleum and Consumer's Choice must be recent entrants into the Bellingham market). This demonstrates that six of the top ten employers in Whatcom county are educators, service providers, or government. It also indicates that there is some degree of concentration within the manufacturing sector, but that small and medium sized firms are more common than the larger ones. Also, no fish processor appeared on the ten largest firms list, although a frozen foods company dealing with fruits and vegetables did.

Table 9, tracking industry employment by year since 1970, indicates that the trend towards a relatively smaller manufacturing sector, as opposed to relatively bigger wholesale/retail and service sectors is an historical one. The government sector, surprising as it may seem, may have become relatively smaller in Whatcom county since 1970.

Table 10 tracks the unemployment rate for the county since 1970. This rate has historically been between 8 percent and twelve percent (except for 1981) until recently. This lowered unemployment rate would seem to be a good economic indicator for the county. This would indicate that the rate of job creation, Tables 6 and 7, is faster than is population growth.

Company	Employees	Product
Intalco Aluminum Company	1,240	Aluminum Ingot
Georgia-Pacific	710	Wood Products
ARCO Petroleum Products Co.	400	Refinery
Mobil Oil Corporation/Ferndale	306	Refinery
Shuksan Frozen Foods Inc.	250	Frozen Fruits/Vegetables
Mt. Baker Plywood, Inc.	225	Plywood
Ershings, Inc.	200	Fiberglass/Metal Workers
Allsop Inc.	150	Molded Plastics, Cleaners
Columbia Cement Corp.	131	Cement
Bellingham Herald	120	Printing
Superior Reprographic Inc.	120	Printing

Source: Whatcom Chamber of Commerce & Industry Business Information Center, n.d.

Employer	Employees	Product
Western Washington University	1,475	Education/Research
Intalco	1,300	Aluminum
Bellingham Schools	1,005	Education
Georgia Pacific	850	Wood Products
St. Joseph Hospitals	800	Medical
City of Bellingham	550	Government
Whatcom County	506	Government
ARCO	400	Oil Refinery
Whatcom Community College	375	Education
British Petroleum	300	Oil Refinery
Consumer's Choice	300	Supermarkets

Source: Fourth Corner Economic Development Group, September 1989.

Table 9 Nonagricultural Wage and Salary Workers Employed in Whatcom County 1970 - 1979 and 1980 - 1990										
Industry	Year									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Total	24,130	27,480	28,380	27,220	28,080	29,880	31,680	33,670	34,930	36,510
Manufacturing	5,700	5,910	6,110	6,350	6,570	-	6,830	6,740	6,600	7,320
Mining & Misc.	200	320	350	410	410	340	340	390	280	280
Construction	1,000	4,040	1,940	1,830	1,510	1,810	1,860	2,220	2,460	2,620
Transportation/Util.	1,500	1,550	1,680	1,770	1,880	1,780	1,740	1,820	1,970	2,100
Wholesale/Retail	5,400	5,730	5,810	5,910	6,280	6,980	7,890	8,820	9,120	9,550
Finance/Real Estate	690	750	800	990	1,030	1,060	1,170	1,340	1,400	1,540
Services	3,190	3,610	3,980	4,230	4,630	5,050	5,430	5,930	6,200	6,180
Government	5,380	5,570	5,710	5,730	5,780	6,450	6,500	6,710	6,820	6,920
workers in dispute	0	20	10	10	100	0	0	10	450	80

Table 9 (continued)										
Industry	Year									
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total	36,160	35,440	35,240	36,450	37,800	38,760	40,600	43,430	45,400	49,600
Manufacturing	7,250	7,080	7,030	6,840	7,070	7,040	6,920	7,420	7,800	8,100
Mining & Misc.	300	300	260	100	90	90	80	80	100	100
Construction	2,040	1,850	1,640	1,760	1,790	1,870	2,100	2,350	2,400	3,100
Transportation/Util.	2,060	1,650	1,570	1,670	1,800	1,850	1,880	1,980	1,900	2,000
Wholesale/Retail	9,140	9,270	9,330	9,930	10,260	10,420	10,810	11,690	12,600	14,600
Finance/Real Estate	1,470	1,560	1,470	1,410	1,410	1,490	1,640	1,770	1,700	1,000
Services	6,580	6,810	6,910	7,510	7,710	8,180	8,160	8,810	10,300	11,200
Government	7,320	7,120	7,030	7,230	7,670	7,820	8,010	8,340	8,500	8,800
Workers in dispute	70	0	0	10	10	0	0	0	0	0

Source: Washington State Employment Security Department, LMCA, as cited in Kamimura 1990.

Table 10 Civilian Labor Force and Unemployment, Whatcom County, Washington, 1970 - 1979 & 1980 - 1989										
Industry	Year									
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Labor Force	33,810	38,140	36,940	38,110	38,830	40,660	43,100	44,000	46,230	48,850
Employed	30,820	35,150	33,490	34,700	35,290	36,220	38,600	40,400	42,520	44,680
Not Employed	2,990	2,990	3,450	3,410	3,640	4,440	4,500	4,500	3,710	4,270
% Not Employed	8.8%	7.8%	9.3%	8.9%	9.4%	10.9%	10.4%	10.2%	8.0%	8.7%

Table 10 (continued)										
Employment Status	Year									
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Labor Force	40,000	48,100	49,600	53,300	51,400	52,800	58,100	50,300	60,100	65,100
Employed	44,100	42,400	43,200	47,000	45,800	48,100	51,000	53,400	55,000	60,800
Not Employed	5,000	5,700	6,400	6,300	5,600	4,800	5,100	4,900	4,300	4,300
% Not Employed	12.5%	11.8%	12.9%	11.8%	10.9%	9.1%	8.6%	9.7%	7.2%	6.6%

Source: Washington State Employment Security Department and US Bureau of Labor Statistics, as cited in Kamimura 1990.

B. The Fishery

1. Salmon

The historical fishery in the Bellingham area is the salmon fishery, and salmon continues to be the most significant species landed at Bellingham, both by weight and value (Tables 11 - 14). The interested reader is referred to Nugent 1979, Nugent 1980, and especially Boxberger 1986 for the "development" of this fishery by Euroamericans and the exclusion of the tribal entities from it. This was considered quite unfair by the Native Americans so excluded and after a struggle and a court case the tribal entities won the right to take up to half of the salmon caught in state waters. This decision, the Boldt decision of 1974, upset non-Native commercial fishermen as it immediately reduced the fish available to them by half. The immediate effect was moderated since the tribal entities did not take a significant part of their quota for several years after the decision. This allowed time for commercial fishermen to adapt to the changed conditions. Sportsfishermen were also affected, but not as seriously. Producers were not affected as much, since the tribal fishermen needed to sell their fish just as non-Native fishermen needed to. This decision made it impossible to make a living fishing for salmon, according to informants, and is the proximate cause for the diversification of many non-Native Bellingham fisherman into other fisheries (including Alaskan waters -- Boxberger, personal communication). Informants are also quick to point out that this had been the general trend anyway, since the salmon fishery requires expensive limited entry permits, has short seasons, and there were too many other fishermen (Boxberger 1986:259). Salmon issues are complex in all fisheries. One of the issues in the Bellingham area is access to fish in Canadian waters or destined for Canadian waters (Fraser River). A full development of the issues of the Bellingham salmon fishery is not necessary for our purposes, but it will be a factor in the later discussion.

One aspect of the Boldt decision that needs to be highlighted is that it was an allocation that encouraged the development of tribal entity fishing fleets. The Lummi fleet is the largest of these, but documentation is relatively sparse. Boxberger 1986 remains the most complete source (Boxberger 1986:279-318). He indicates that prior to the Boldt decision the Lummi had participated in the purse seine fishery for salmon. This was relatively short-lived, however, as they reportedly could not compete with better financed non-Indian gear (Boxberger 1986:245-255). With the Boldt decision, the Lummi were guaranteed access to the resource. This allowed them to take advantage of U.S. government loan programs even though they had few experienced fishermen and very little capital. A significant portion of Lummi (and other Indians) now have access to the fishery because of this allocation.

It is also interesting that the Lummi decided to privatize the allocation. There was never any idea that the resource should be developed in common for the benefit of the tribe in general. Boxberger admits to being puzzled by this, and offers no explanations (1986:271-272). The fish allocation is made to the tribe, which can distribute it any way it desires. The Lummi tribe, in turn, allows any Lummi who wishes (or can afford to) can go harvest fish. They have discussed limited entry, and discourage new entrants if it seems that there

are too many tribal fishermen already, but these measures have been ineffective. Boxberger reports that the overcapitalization and low rates of return of the "regular" commercial fishery have developed within the tribal fisheries as well (Boxberger, personal communication). While individual fishermen have done quite well, the Lummi as a whole do not seem that much better off because of their special access to the salmon fishery. There can thus be no question that the Boldt decision has enabled Lummi fishermen to develop the capabilities to enter the fishery, and some have become successful fishermen. Whether this was the aim or intent of Judge Boldt does not matter at this point, but is pertinent for other managers trying to assess the lessons from this case.

Table 11
Commercial Fishing Landings by Weight (1900 - 1905) and Value (1900 & 1905) Bellingham Bay, Whatcom County, Washington

Major Species	Weight of Landings (pounds)						Value of Landings	
	1900	1901	1902	1903	1904	1905	1900	1905
Crab, Lobster, Crayfish	702,343	557,407	536,407	475,097	412,015	474,760	642,164	677,956
Shrimp, Prawns	5,233	238,065	0	0	0	0	0	0
Flatfish	4,200,000	5,560,172	6,950,385	8,630,718	11,435,749	8,407,260	2,084,147	1,003,216
Hake, Cod	1,471,662	1,002,005	503,007	384,330	526,115	605,520	388,666	162,171
Herring, Anchovy	3,102,120	746,200	789,959	573,730	0	0	1,061,161	0
Lingcod	608,817	517,054	205,000	652,522	1,349,847	1,645,020	155,209	384,852
Mollusk	67,574	28,032	27,830	83,972	235,071	215,732	35,827	83,826
Other Fish	275,153	301,304	120,289	19,031	400,423	168,860	32,018	16,569
Rockfish	6,040,962	6,857,677	2,846,427	3,303,242	5,603,195	-	1,567,771	2,236,583
Sablefish	339,898	709,335	1,155,618	1,518,051	2,013,808	748,765	1,567,771	2,236,583
Salmon	6,746,140	15,930,297	13,989,506	7,267,332	7,012,757	15,272,703	11,047,067	11,346,479
Sanddab	0	0	0	30	0	0	0	0
Shark, Skates, Ray	1,900,618	1,536,231	3,053,456	3,277,933	5,401,896	3,483,975	220,826	307,573
Smelt	1,615	1,005	0	0	120	254	340	75
Sturgeon	3,305	2,629	5,469	385	659	839	2,421	329
Tomcod	0	0	0	0	0	0	0	0
Tuna	23,220	134,744	42,563	5,091	0	997	21,814	877
Subtotal: Finfish	25,657,580	34,278,803	29,683,456	25,633,290	33,824,667	40,119,157	16,672,141	16,556,973
Total	20,712,719	35,102,243	30,227,702	20,182,360	34,471,753	40,969,910	17,350,131	17,350,640

Source: Washington State Department of Fisheries, Port Data by Species. Unpublished computer printout, Olympia, n.d. as cited in Kearney/Centaur Division 1988:2-60.

**Table 12
Commercial Fishing Summary, Bellingham Bay, 1990 & 1995**

Major Species	1990			1995		
	% of Total Pounds	% of Total Landings	Unit Price	% of Total Pounds	% of Total Landings	Unit Price
Crab, Lobster, Crayfish	2.9	3.7	80.82	1.2	3.9	81.43
Shrimp, Prawns	0.0	0.0	80.00	0.0	0.0	80.00
Flatfish	16.1	12.0	80.40	20.5	10.4	80.21
Hake, Cod	5.5	2.2	80.26	1.7	0.0	80.24
Herring, Anchovy	11.0	6.1	80.33	0.0	0.0	80.00
Langood	2.3	0.9	80.26	4.0	2.2	80.23
Mollusk	0.3	0.2	80.53	0.5	0.5	80.39
Other Fish	1.0	0.2	80.12	0.4	0.1	80.10
Rockfish	26.0	0.0	80.23	23.7	12.9	80.23
Sablefish	1.3	0.5	80.27	1.0	1.7	80.40
Salmon	25.3	63.7	81.64	37.3	65.4	80.74
Sanddab	0.0	0.0	80.60	0.0	0.0	80.0
Shark, Skates, Ray	7.4	1.3	80.11	8.5	1.0	80.09
Smelt	0.0	0.0	80.21	0.0	0.0	80.30
Sturgeon	0.0	0.0	80.73	0.0	0.0	80.35
Tomcod	0.0	0.0	80.0	0.0	0.0	80.00
Tuna	0.1	0.1	80.93	0.0	0.0	80.99
Total	100.00	100.00	80.65	100.00	100.00	80.42

Source: Washington State Department of Fisheries, Port Data by Species. Unpublished computer printout, Olympia; n.d. as cited in Koamey/Centaur Division 1988:2-69.

Table 13 Commercial Fishing Landings by Weight (1900 - 1905) and Value (1900 & 1905) Blaine and Whatcom County, Washington								
Major Species	Weight of Landings (pounds)						Value of Landings	
	1900	1901	1902	1903	1904	1905	1900	1905
Crab, Lobster, Crayfish	573,362	523,461	421,204	747,002	436,731	650,602	483,939	874,703
Shrimp, Prawns	0	0	0	11,047	0	0	0	0
Flatfish	1,133,705	1,374,380	1,707,672	2,310,001	2,770,853	3,234,837	339,551	2,790,403
Hake, Cod	1,434,048	1,573,015	1,364,133	1,291,497	1,959,619	1,518,169	368,551	368,881
Herring, Anchovy	842,754	102,580	200,559	0	0	0	334,871	0
Lingcod	50,204	65,762	178,062	218,420	372,521	885,694	12,750	216,095
Mollusk	28,201	118,057	17,400	10,930	15,319	9,310	8,815	2,405
Other Fish	1,018,070	1,134,959	250,174	111,330	133,142	10,891	89,006	1,470
Rockfish	104,881	584,350	1,051,115	1,373,883	932,203	2,412,046	42,327	594,399
Sablefish	708	0	242,754	110,550	785,027	113,106	197	42,765
Salmon	2,209,006	3,253,516	3,714,511	2,239,600	2,090,349	8,896,818	3,223,500	7,356,158
Sanddab	0	0	0	0	0	65	0	21
Shark, Skates, Ray	1,172,043	1,754,733	1,366,853	2,170,817	2,990,390	1,535,316	120,085	117,768
Smelt	0	0	1,205	7,785	8,554	0	0	0
Sturgeon	157	0	150	180	185	810	73	373
Tomcod	0	0	0	0	0	0	0	0
Tuna	0	0	0	0	0	0	0	0
Subtotal: Finfish	7,987,104	9,924,174	10,159,188	9,042,360	12,189,833	18,608,752	4,540,339	11,406,420
Total	8,506,757	10,507,105	10,507,900	10,707,805	12,651,803	19,260,664	5,033,804	12,363,600

Source: Washington State Department of Fisheries, Port Data by Species. Unpublished computer printout, Olympia, n.d. as cited in Koamey/Centaur Division 1988:2-66.

Table 14
Commercial Fishing Summary by Major Species, Blaine - 1980 and 1985

Major Species	1980			1985		
	% of Total Pounds	% of Total Landings	Unit Price	% of Total Pounds	% of Total Landings	Unit Price
Crab, Lobster, Crayfish	6.7	8.6	80.84	3.4	7.1	81.34
Shrimp, Prawns	0.0	0.0	80.00	0.0	0.0	80.00
Flatfish	13.2	6.7	80.30	16.8	22.8	80.86
Hake, Cod	16.7	7.3	80.28	7.9	3.0	80.24
Herring, Anchovy	0.8	6.7	80.40	0.0	0.0	80.00
Lingcod	0.6	0.3	80.25	4.6	1.7	80.24
Mollusk	0.3	0.2	80.34	0.0	0.0	80.27
Other	11.0	1.8	80.09	0.1	0.0	80.14
Rockfish	1.2	0.8	80.40	12.5	4.8	80.25
Sablefish	0.0	0.0	80.25	0.8	0.3	80.38
Salmon	25.8	64.0	81.46	48.2	59.5	80.83
Sanddab	0.0	0.0	80.00	0.0	0.0	80.32
Shark, Skatoo, Ray	13.7	2.5	80.11	8.0	1.0	80.08
Smelt	0.0	0.0	80.00	0.0	0.0	80.00
Sturgeon	0.0	0.0	80.47	0.0	0.0	80.46
Tomcod	0.0	0.0	80.00	0.0	0.0	80.00
Tuna	0.0	0.0	80.00	0.0	0.0	80.00
Subtotal: Finfish	83.0	80.2	80.57	86.8	82.8	80.62
Total	100.0	100.0	80.57	86.8	82.8	80.62

Source: Washington State Department of Fisheries, Port Data by Species. Unpublished computer printout, Olympia: n.d. as cited in Keamey/Centaur Division 1988:2-87.

2. Other Species, Other Fisheries

Flatfish, rockfish, and sablefish are also landed in significant numbers in Bellingham (Table 11). The take is somewhat more variable out of Blaine (Table 13). What does not show up on these tables is the possibility of joint ventures for catcher boats delivering fish offshore, or the boats which fish other waters and land the catch in other ports. The landings tables also do not show the operations of those large processors who import frozen fish or product for further processing. Thus, it is possible to argue that the statistics kept on fish landed at the ports of Bellingham and Blaine seriously misrepresent the fishery economy of the area. According to informants, a truly local fisherman, in the sense of someone who fishes only the local area, is rare. If this segment does exist (call it the "landings table," or LT, category) there are at least two or three other categories operating out of Kodiak. One consists of the boats that go to Alaska to fish for at least part of the year (salmon, halibut, maybe even crab). In extreme cases these boats may be more Alaskan boats than they are lower-48 (call them "Alaskan visitors," or AV). Another segment of the industry ("frozen product") are the large plants that bring in frozen surimi and fish for further processing. Much of this product originates in Alaskan waters. There is a group of boats still operating in Joint Venture (JV) operations, both in distant (Alaskan) waters as well as the Washington to California coast. Lastly, there are residents of Bellingham who own interests in trawlers operating in Alaskan waters fishing for groundfish (both catcher boats and factory trawlers).

Thus, what appears at first glance to be a community with little direct connection to the Alaskan groundfish fishery does, in fact, have a number of reasons to be concerned with management issues of the Bering Sea and the Gulf of Alaska. These can perhaps be better delineated by summarizing informants' reports on the general aspects of the Bellingham fleet, processing sector, and harbor.

3. The "Typical" Bellingham Fisherman

This description of the Bellingham fish economy relies on a few key informants who have many years of experience in Bellingham, in a number of different capacities. It is a composite, but should not do violence to the views of any of these individuals.

Squalicum Harbor, the main harbor for Bellingham, has about 600 to 650 commercial boats at the height of the season and about 1,100 pleasure boats. About 120 of these commercial boats call Bellingham "home" (the largest home port fleet in the state, larger even than Seattle), with the rest being transients. About 60 percent of the fleet is from out of state. Gill netters make up about 75 percent of the commercial boats. Some local fishermen have as many as seven different nets (to meet the regulations of different fisheries), and it is not unusual for a fishermen to have at least four different kinds of nets. All of these fishermen have to fish year-round to make a living which means they have to travel quite a bit. In early October they were "scratching" for crab, but would soon leave for California for shark

and herring, then maybe a herring roe opening in the San Francisco area, then the False Pass herring opening, followed by Prince William Sound or southeast Alaska salmon. Most of the Whatcom county fishermen who fish in Alaska go for salmon and in 1986 they brought back a catch worth about 42 million dollars (compared to a local 1985 salmon landing of just over 11 million dollars). The salmon opening on Puget Sound for non-tribal fishermen was only 36 hours this year, so if a fisherman wants salmon he almost has to go to Alaska. Several informants stated that since an Alaskan limited entry salmon permit allows a fisherman to fish in only one region of Alaska, Bellingham boats will sometimes serve as tender boats when not actually fishing. While it is permissible for fishermen to own permits for different areas and gear types, these informants implied that at least for them this was not the case either because the cost of an additional permit was too high or the permit itself was simply not available in the marketplace. The theme that these and nearly all informants (be they fishermen, processors, support persons, or harbor personnel) expressed was the need for movement and the constant need to be thinking about the next opportunity to fish. Any economically rewarded activity associated with a boat and fishing tackle is open to be incorporated within this pattern. Some of the Bellingham boats that go up to Alaska are part of the tribal fleet and they need to keep on top of productive fisheries as do other fishermen.

This community view of a Bellingham fisherman is very similar to that developed from informant accounts in Kodiak of a "typical" Kodiak fisherman. Both stress the need for mobility, freedom of action, and adaptability. Both clearly need markets for their catch, wherever they fish, and would seem to have a preference for shore-based plants. To the extent that an inshore allocation will stabilize onshore plant production and make their operation more predictable, these smaller catcher boats will benefit -- even if they do not target the species for which the allocation is made. Most shore-based plants process multiple species, and if groundfish keep them in business so that they can also process a fisherman's sablefish or P. cod or whatever, it would seem to be a benefit. This in one argument that will be examined in the analysis to be developed.

The smaller groundfish processors in Bellingham get their fish primarily from Washington and British Columbia waters, and use local draggers to harvest them. Local informants use the term "dragger" to refer to these local boats and differentiate them from "trawlers." No local boat is referred to as a trawler. The difference in terminology reflects a perceived difference in size (draggers are smaller than trawlers), the type and size of equipment which can be handled (draggers again being smaller in capability), the perceived mode of operation (draggers tow slower, trawlers faster), and perhaps the original purpose for which the boat was built (draggers tend to be converted). Whether this local distinction is generally recognized is doubtful. As in other communities, the two terms were used interchangeably. Since the focus of this chapter is Bellingham, however, it is the local meaning and not the general usage which is of import and which reveals the important distinctions being made by these local informants between (the relatively few) local draggers and (the relatively many) non-local trawlers. Even if this terminological distinction is not made in all communities (or even by all informants in Bellingham), the perceptual

difference is one that is found in other coastal communities as well (most notably in Kodiak, based on the interviews conducted for this project). Bellingham informants say that local draggers could work Alaskan waters if they wanted to but generally stay in coastal Washington. There are perhaps five or six that work out of Bellingham.

The two surimi plants and a third fillet/block plant use a good deal of Alaska product. Much of this (80 percent) comes in frozen, trucked from Seattle after being shipped from Alaska. Some may be directly offloaded from ships in Bellingham, but most is reported to come by truck. The surimi plants use surimi made at sea or in Alaska shore based plants to make final products. One of these companies had gross sales of 128 million dollars in 1988. Much of the Alaskan groundfish also comes in frozen after being processed in only a preliminary way in Alaska. The major operators in Bellingham have arrangements with Alaskan shore plants as well as offshore suppliers for a steady supply of product, so in general they do not think the onshore/offshore allocation question will affect their operations to any great extent. The main things that factory ships turn out are surimi, IFQ fillets, blocks of fillets, and headed and gutted fish. All still need to be processed further, which is the primary function of two and perhaps three of the major Bellingham processing plants. "Value-added products" were a central concern of several processors (but not a key concern of fishermen), with the only problem being one of stable supply. If the fisheries cannot operate year-round due to low quotas or overcapacity in harvesting, the cold storage facility can be used to buffer local processing operations. One of the reasons the Bellingham fleet is so large is that the cold storage capacity in the area is so big. This storage in turn helps the processing plants even out fluctuations in supply and production.

Another result of the large cold storage facility is that joint ventures are facilitated. At present the most action seems to be in Jvs with the Soviets for crab and Pacific whiting. Some of the crab is processed in Bellingham, but most of the whiting is not. One informant suggested that it was frozen whole and transhipped to Seattle, where it is then shipped overseas without any further processing. Other sources (NMFS and industry) say that it is transferred at sea to Soviet transport ships. In any event, it is unlikely that these fish are included as fish landed in Bellingham.

In general, there is a great deal of difficulty in simply assessing the current participation of Bellingham fishermen and processors in Alaskan fisheries. No systematic information on which boats (or even how many) fish seasonally in Alaska is available. Most or all of this participation is in non-groundfish fisheries. The income effects of this activity for the fishermen involved are known to be large, but the overall contribution is unknown. The effects of onshore/inshore allocation decisions for pollock and cod in the Gulf of Alaska, and pollock in the Bering Sea remains to be analyzed. In addition, there is little good information available describing joint ventures (in both "local" waters and Alaskan waters). This is an area where even key informants were hesitant to make general statements. Lastly, those large processors which use Alaskan product are, without exception, part of fish industry networks which tie them to Seattle as well as processors and producers in Alaska. Many of these relationships result from different units of large corporations being located

in each of the locations. For example, a surimi processing plant in Bellingham receives surimi manufactured from factory catcher/processors fishing the Bering Sea, although the ships are based in Seattle. This plant, and other plants, will also buy product from Alaskan shore based plants, which they then make "value-added" products out of in Bellingham. Details on these activities (level of production, gross and net cash flows) are closely guarded, so again the contribution of these operations is not totally clear. The payroll figures discussed above give some indication of the overall economic contribution to Bellingham's economy.

Another difficulty with assessing the contribution of Alaskan fisheries to Bellingham's economy, and the participation of Bellingham fishermen and processors in Alaskan fisheries, is that most informants seemed to regard the Bellingham fishery and Alaska fisheries as very different. Bellingham is a "rivers of origin" fishery whereas Alaska is most commonly seen as a Bering Sea mid-sea Seattle-dominated trawl fishery. At the same time, informants discuss the need for local fishermen to participate in Gulf of Alaska and maybe Bristol Bay fisheries as part of a developing multi-species year-round fishing strategy. Once the economic survey information is available we hope to be able to address this question in more detail.

C. Infrastructure

1. General

Full information on Bellingham's infrastructure is available from a number of sources. Most of the following information is from the Whatcom Chamber of Commerce & Industry Business Information Center. Bellingham has a total water capacity of 7-30 million gallons per day, delivered at a pressure of from 40 to 120 pounds/square inch. The sewer system can handle 18 million gallons per day. Waste disposal is integrated with a curbside recycling program that seems to be highly effective. An unlimited amount of electricity is available from the Puget Sound Power and Light Company, generated hydraulically. Natural gas is also available in very large supplies. Communications are provided by Pacific Northwest Bell and Continental Telephone. There is one Bellingham television station and one Bellingham radio station (with two others in the county). There is a local cable television system and a local newspaper.

Bellingham is well connected by roads to Seattle to the south and Vancouver to the north. In addition, Bellingham is serviced by an international airport and is the southern terminus for the Alaskan ferry. The port of Bellingham has two large ship berths, and Intalco, Mobile Oil, and ARCO each have an additional large ship berth. The port also has a barge slip, as does Bellingham Cold Storage. Burlington Northern Railroad Company has 37 active spurs in Whatcom county and there are five active major trucking firms in the county. Bellingham has a bus system serving the entire community, paid for mainly by a 0.3% local

sales tax within the service area. There is also a small fee to riders (\$0.20 for a token or \$0.25 cash). There are also taxis.

The housing supply has become fairly restricted in the last few years, due to the University and newcomers moving in. Information on housing starts in recent years is available but not included.

2. Squalicum Harbor

Part of the reason so many fishermen use Bellingham as a port is that the harbor has well developed facilities. There is a large and skilled labor force available, a shipyard for repairs, two large drydocks, three radar shops, and suppliers who sell to the world's fleets. The facilities rival or surpass Seattle's, in many informants' opinions. Blaine Harbor, to the north of Bellingham, has berths for 400 boats (250 pleasure, 140 commercial) but does not have much in the way of support facilities. Squalicum Harbor does not have berthing space for all the boats who wish to use it, but no commercial boat is ever denied access. In such cases, the boat is rafted. While rafting is not the preferred action to take, it is the best alternative available.

The harbor is administered by the Bellingham Port Authority (BPA). The impetus to form the BPA was provided by the Chamber of Commerce, which saw consolidation of various port functions under one umbrella as an effective first step in attracting investments and fostering infrastructure development (Hitchman 1982:58), and as such the BPA publicizes and markets the port facilities of the community. The Port of Bellingham was established in 1920 and is the most northern port in Washington State. It operates twelve separate districts: Bellingham International Airport, Airport Industrial Park, Sumas International Cargo Terminal, Grandview Industrial Park, four foreign trade zones sites in the county, the Whatcom International Shipping Terminal (WIST), Fairhaven Terminal, Squalicum Harbor, and Blaine Harbor. Total port assets in 1987 were over \$35 million. The harbor is easily the most lucrative of the districts (accounting for 80 percent of all port billings, with a staff of only 4 FTE) and helps support the others (especially the airport).

A comprehensive plan was formed in 1921 and the first bond issue occurred in 1924 to rebuild the municipal dock which had been built in 1918. The Squalicum Creek property was developed with a breakwater, dredging, filling, and support structures between 1926 and 1931. In 1935, the small boat harbor in Blaine was developed. During World War II, Squalicum Harbor was expanded and a cold storage plant built in cooperation with Talbot shipyards. The cold storage facility was to prove to be a great asset, and by 1967 four different projects had increased its capacity. In the 1950s both Squalicum and Blaine Harbors were expanded.

In 1957 the port assumed control of the airport. In the early 1960s the port expanded its ocean-shipping facilities in a successful effort to attract large businesses to Bellingham. In

1966 the port purchased the assets of a fish processor which had ceased local operations and thus secured another deep water dock. By 1970 the port owned one-quarter of the waterfront land within the Bellingham city limits, and two-thirds of the waterfront from Post Point to the Columbia Cement Company. One of the current issues in Bellingham is the extent to which the port authority should develop its land for the most economic return (that is, in terms of monetary return) as opposed to functional utility. The primary bone of contention is some prime land on Squialicum Harbor that could be used for a hotel/convention center, with a very high rate of return, or for more harbor/fleet support development, which has a lower rate of return. This is also a question of whether the harbor should be operated with its own interests as primary, or whether it is operated as merely one of the divisions of the overarching port authority.

IV. SOCIOCULTURAL PROFILE

A. Social Organization

The primary government institution in Bellingham is the City Council. Both the City and the county have active planning departments. In addition there are several quasi-governmental agencies involved in planning/economic development whose exact charters are not at this time known, but who are also quite active and are good sources of information. These include the Whatcom County Council of Governments, Fourth Corner Economic Development Group, City Center Development Authority, Whatcom Chamber of Commerce & Industry, and the Bellingham Job Service Center. The Port of Bellingham is also a vitally involved participant in the economic development of the community and the region. Western Washington University also contributes a great deal to the community, both in terms of people interested in planning and development issues and resources to study and solve problems. The state and federal governments also are heavily involved in local affairs, as much of the land in the area is public and many of the primary natural resources of the region are subject to state and federal regulation. In addition, the local fish resources must be shared with the Native Americans of the area under federal regulations (discussed above, also see Boxberger 1986).

B. Sociocultural Values

Religion is not an especially strong unifying force for the community, so little effort was devoted to its investigation. There are a number of denominations, but the community is diverse enough that no one denomination is perceived as the community church.

Views on resource management, on the other hand, are extremely important to document. Western Washington University has a very strong environmental studies program which has a very strong "pro-environment" perspective. The spotted owl controversy was in the newspapers during our short period of fieldwork, and the full range of attitudes from killing all owls to not cutting any trees was displayed.

Attitudes are directly related to the closeness of the issue, however. As might be expected, not all segments of the community share the same views on logging certain stands of trees or the recent decisions involving endangered species and the lumber industry. While most people seem in favor of planning and economic development, there is some division over what industries should be encouraged to phase out Bellingham operations and what sort of industry to try to attract. The debate is seldom hostile, as most participants agree on the need for responsible planning and differ mainly on the sorts of compromises which they deem practical or inevitable. Almost everyone sees the local quality of life as the major reason to live in Bellingham rather than somewhere else. This is perhaps the ultimate community value and is not just a measure of the local natural environment.

Local Bellingham reaction to another issue also bears on this point. Most informants had to reach to connect the Alaskan water fisheries with the Bellingham economy, at least in the sense of thinking of an adverse effect that an action up there could have on Bellingham. The most common scenario developed was that if the Bering Sea was overfished, perhaps all that excess harvesting capacity would descend on the west coast, with devastating effect. Informants wanted to avoid this at all costs, and would prefer not to see factory/tractors in their fisheries at all. They did not express any real concern over the fate of the Bering Sea fishery (or those who depend on it).

Subsistence activity was not documented. The tribal entities are fully active participants in the commercial fishery, as well as maintaining some subsistence catch. The Lummi operate a salmon hatchery as well. Other reservation activities could be described, but secondary sources are lacking and field time was limited. While a treatment of subsistence and a fuller treatment of ethnic relations in the community would inform this profile, the resources did not exist to develop such a discussion.

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**COMMUNITY PROFILE DEVELOPED FOR THE
SOCIAL IMPACT ASSESSMENT OF THE
INSHORE/OFFSHORE AMENDMENT PROPOSAL**

Newport, Oregon

Submitted to

North Pacific Fishery Management Council

Submitted by

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Table of Contents
Newport Community Profile

INTRODUCTION	1
POPULATION	2
Size and Composition	2
Household Size	5
Educational Status	5
SOCIOECONOMICS	6
Economic Profile	6
The Fishery	9
Newport and the Oregon Fisheries Economy	11
Difficulties in Measuring the Actions and Effects of the Newport	
Fishing Fleet	18
Newport Seafood Processors and Other Associated Activities	20
Tourism and the Fish Industry	21
The Port of Newport	22
Infrastructure	23
SOCIOCULTURAL PROFILE	24
Social Organization	24
Sociocultural Values	24
REFERENCES	26

NEWPORT, OREGON

I. INTRODUCTION

Newport is the largest city in Lincoln county, Oregon, and is the county seat. Much of the literature dealing with the area has a county focus, so it is not always possible to provide information specifically about Newport. When county data is all that is available, we have tried to discuss it in terms of what it means for Newport in particular. However, a county orientation is perhaps justified as the main concern of this community profile is with the fishery and its relation to Alaskan fisheries. Too narrow an emphasis on the community as defined by political boundaries may obscure the issues.

Newport is best known to those who do not live there for the fishing industry and tourism. As with many cities, however, the majority of residents work in the retail trade, government, and service sectors of the economy which together provide about 67 percent of all employment in the county. There is no scheduled air service to Newport, so the most common ways to travel are by automobile and bus. Newport is located on the major coastal highway (north and south) and can also be reached from the east by another major road. Both routes are what would be considered older roads with substantial portions of undivided two lane traffic. The area, both the city and the county, has been growing and one of the problems commonly voiced by informants was that traffic was becoming bothersome.

II. POPULATION

A. Size and Composition

The following tables present information on the population of City of Newport and Lincoln County, Oregon. For some types of data, only information aggregated at the county level is available. Where Newport-specific information is available, it is broken out from the county statistics.

For 1970 through 1985, the county population increased by 45 percent and the city of Newport by nearly 61 percent (Table 1). The rate of increase has not been constant over this period. For both the county and the city, 1975 to 1980 was a period of very rapid growth, with the county having a rate about one third higher than the city. 1970 to 1975 was also a period of high growth. In fact, this is the city's high growth period, with a rate of increase more than twice that of the county. After 1980 population growth slowed, but remained substantial for the city (1.3 to 2.6 percent a year) while being much more variable and lower for the county as a whole, even being negative in one year. Thus, for some of that period the county outside of Newport was actually losing population.

Community	Year							
	1970	1975	1980	1981	1982	1983	1984	1985
Lincoln County	25,755	28,335	35,264	35,530	36,600	36,750	37,300	37,230
Newport	5,188	6,354	7,519	7,660	7,850	7,950	8,135	8,350

Source: Kearney/Centaur Division 1988:4-5.

The structure of Lincoln County's population is presented in Table 2. The figures for 1990 and 1995 are projections based on past the known populations distributions, birth and death rates, and historic patterns of immigration into and emigration out of the area. The figures used for the 1985 county population are reliable estimates based on partial information, using the same sort of statistical demographic techniques that the U.S. Bureau of the Census does to publish much of its analysis based on samples from the U.S. population. Thus the 1985 figures are fairly reliable.

An examination of Table 2 reveals that there are no simple patterns to Lincoln County's changing populations. Looking at net changes obscures the population turnover that has been taking place. The most extreme case from 1970 to 1980 involves the cohort of people who were 20 to 24 years old in 1970. There were 1,293 of them. Ten years later, in 1980, there were 2,687 people who were 30 to 34 years old, an increase of over 100 percent. This means that at least 1,394 people within this age group moved to Lincoln County between the 1970 and 1980 censuses. Gains for other age cohorts are typical in the 400 to 600

person range. Only a few cohorts lose members, as even those ages 65 to 69 in 1970 (1,535) gain members in 1980, as there are then 1,937 people who are age 75 or older. The net gain between 1980 and 1970 was 6,509 people, which is consistent with these figures only if immigration greatly outnumbered emigration. Because births probably outnumbered deaths in this period by at least 1,000 (and perhaps as many as 2,000) and immigration due to cohort size changes had to be at least 7,000 people or so, emigration must have also been significant during this period. It is very likely that different age groups had differential migration characteristics, as is reflected by the resulting changes in age cohorts. Clearly the county's population increase was due in large part to immigration, as is also indicated by the increase in the average age of the population. The percentage of people 20-64 increased significantly between 1970 and 1980, while those over 64 remained fairly stable and those under age 20 declined significantly. These patterns continue to 1985, the period when rapid population increase also continues. After 1985 the rate of population increase slows dramatically, as does the "aging" of the population. This seems to be due to an increased rate of emigration for older people and a higher death rate. This is supported by the number of population cohorts that were projected to decline from 1985 to 1990. Immigration is also projected to decrease, as even those age cohorts which are projected to increase in size do so moderately. There still are a few cases which are difficult to explain, and it remains to be seen if the projections are accurate, but the effects are dramatic. As can be seen in Table 3, these dynamics result in a Lincoln County population in which deaths outnumber births and continued growth is dependent on immigration. However, it should be borne in mind that with immigration playing such a key role in the population dynamics of the county, age projections are inherently problematic. Still, it is expected that the population of the county will grow older in structure over time. That is to say that there will be relatively more old than young people in the population than is now the case. This will have implications for both infrastructure and demand for services in the future.

Table 2
Persons by Age Group, Lincoln County: 1970, 1975, 1980, 1985, 1990, 1995

Age	1970 Census		1980 Census		1985 Estimate		1990 Projection		1995 Projection	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0-4	1,652	6.4	2,307	6.8	2,624	7.0	2,525	6.3	2,401	5.8
5-9	2,127	6.3	2,093	5.9	2,442	6.5	2,712	6.7	2,625	6.1
10-14	2,425	6.4	2,233	6.3	2,205	5.9	2,629	6.5	2,605	6.0
15-19	2,284	6.9	2,581	7.3	2,311	6.3	2,385	5.9	2,024	6.0
20-24	1,203	5.0	2,500	7.1	2,435	6.5	2,222	5.5	2,262	5.3
25-29	1,267	4.9	3,032	8.6	2,304	6.4	2,310	5.7	2,118	4.9
30-34	1,111	4.3	2,607	7.6	3,201	8.8	2,075	7.2	2,770	6.5
35-39	1,215	4.7	1,940	5.5	2,036	7.9	3,660	9.1	3,290	7.7
40-44	1,301	5.4	1,591	4.5	2,067	5.5	3,007	7.7	3,837	9.0
45-49	1,051	6.4	1,032	4.8	1,660	4.4	2,180	5.4	3,191	7.5
50-54	1,698	6.6	1,660	5.3	1,677	4.5	1,762	4.4	2,262	5.3
55-59	1,772	6.9	2,340	6.6	1,924	5.1	1,925	4.5	1,900	4.5
60-64	1,738	6.7	2,402	7.0	2,371	6.3	2,097	5.2	2,008	4.7
65-69	1,535	6.0	2,281	6.5	2,440	6.5	2,440	6.1	2,202	5.1
70-74	1,202	4.7	1,672	4.7	2,100	5.6	2,300	5.7	2,325	5.4
75+	1,404	5.5	1,937	5.5	2,407	6.7	3,184	7.8	3,703	8.6
Sum	25,755	100.0	32,264	100.0	37,400	100.0	40,200	100.0	42,600	100.0
<20	8,488	33.0	9,294	28.4	9,622	25.7	10,251	25.5	10,035	25.3
20-64	13,126	51.0	20,000	56.9	20,735	55.4	22,017	54.8	23,655	55.3
65+	4,141	16.0	5,970	18.7	7,043	18.8	7,932	19.7	9,310	21.4

Source: Center for Population Research and Census, Portland State University. Cited in Kearney/Centaur Division 1988: Table DS 4-5.

Years	Total Population Change	Births	Deaths	Natural Population Increase		Net Population Migration	
				Number	% of Total Change	Number	% of Total Change
1980-85	2,136	2,638	1,951	687	32.2	1,449	67.8
1985-90	2,800	2,529	2,265	264	9.4	2,536	90.6
1990-95	2,600	2,481	2,562	(81)	N/A	2,681	N/A
1995-2000	2,400	2,574	2,801	(227)	N/A	2,627	N/A

Source: Center for Population Research and Census, Portland State University. Population Projections, Oregon and its Counties: 1980-2000. Portland, 1984. Cited in Kearney/Centaur Division 1988:4-19.

B. Household Size

Between 1970 and 1980 the number of households in Lincoln County increased from 9,365 to 14,608 (U.S. Census figures). This was an increase of 56%, compared to a population increase of 37% over the same period. As would be expected from such figures, the average household size decreased in this period, from 2.7 persons per household to 2.38 (Kearney/Centaur Division 1988:4-17). This is probably due to fewer children per household, and more single person and single parent households (Kearney/Centaur Division 1988:4-17).

C. Educational Status

Between 1970 and 1980 the median number of school years completed by Lincoln County residents over the age of 24 increased from 12.1 to 12.6 years (Kearney/Centaur Division 1988:4-20). The county is one school district, divided into four areas. Each area has one high school (located in a larger town) and one to three elementary schools. Most schools are located in the same municipality, but some combined schools exist in other locations. There are fewer middle schools than there are high schools, and elementary schools are by far the most numerous.

II. SOCIOECONOMICS

The four main industries in Lincoln County are government, tourism, fishing and the support of fishing, and lumber and wood products. Government jobs made up 26.8% of the total 1987 payroll. Restaurants and hotels/motels contributed 13% of the 1987 payroll and the manufacturing sector added another 19.6% (Greater Newport Chamber of Commerce n.d.:9). Although the categories are different from those used by Radtke and Davis 1988, the figures are consistent with this source, which indicates that the fishing industry directly supplies 16.4% of the personal income in Lincoln County. Tourism and paper appear to be the most likely growth industries in and around Newport, with fishing as another possibility. City planners note that several large hotel/convention centers have recently been built, that the new marina devoted primarily to pleasure craft is doing well, and that they have had difficulties in trying to promote seafood-related investment/development on the harbor waterfront (1990 fieldwork). There are so many uncertainties surrounding fishing, especially in regard to joint venture operations in Oregon and Washington waters (and distant water operations in Alaska), that few people are willing to make a firm prediction for industry growth by risking investment funds at this time.

A. Economic Profile

Almost half of the personal income received by Lincoln County residents is "unearned" income (investment income and transfer payments, Table 4). Of the "earned" income category, fishing, tourism, timber, and paper are the major contributors. Table 4 is drawn from an analysis of coastal Oregon economies that does not use government or service sectors as analytical concepts, as their model is driven by the more primarily productive parts of the economy (Radtke and Davis 1988). From discussions with Newport informants, it is likely that Table 4 still understates the significance of the fishing sector to Newport's economy. This for reasons to be developed when discussing the fishery.

Table 5 provides some evidence to support the generalizations made about Newport's economy. Newport is clearly an important economic location in Lincoln County, as five of the ten biggest employers in Lincoln County in 1987 were located in Newport. Two others were partially located in Newport. Only two of the ten largest employers in Lincoln County in 1987 were primary producers. The biggest was (and is) a paper plant in Toledo. The other is a fish processor in Depoe Bay. Neither is far from Newport, but neither is located there. Two of the three largest employers were (and are) governmental entities -- the public schools and the county government. The next five are resort hotels, as is number ten. These data reflect the strength of the tourist industry. The rest of the list is composed of three more public/governmental entities and a retailer. Looking at the ten largest employers in the city of Newport in 1989, the top three places are held by public/government entities, all on the Lincoln County list as well. Three others also carry over from the Lincoln County list -- a hotel/restaurant, a public utility, and a seafood processor. Their position on the list is problematic, but probably related to developments

between when the lists were compiled in 1987 and 1989. Three of the remaining four on this list are seafood-related, which makes four on the Newport list altogether. Three of the four are major seafood processors, while the fourth is involved in many things, among them some of the more successful local eateries. The city of Newport is also among the top ten employers in Newport.

Table 4
Sources of 1987 Total Personal Income, Lincoln County

Economic Activity	Total Personal Income (dollars)	Total Personal Income (percent)
Investment	119,200,000	24.2
Transfer Payments	108,100,000	21.9
Fishing	80,900,000	16.4
Tourism	59,100,000	12.0
Timber	51,200,000	10.4
Paper	36,000,000	7.3
Other	34,200,000	6.9
Marine Transportation and Cargo	1,400,000	0.3
Boat Building	Unmeasurable	0.0
Special Education and Military	Unmeasurable	0.0

Source: Radtke and Davis 1988:22.

Table 6 is a more standard presentation of employment in Lincoln county. The labor force and population numbers near the top of the table reinforce the comments made about county population dynamics. Unemployment is fairly low, and the percentage of the total population which is part of the labor force increased from 37 percent in 1970 to 47 percent in 1980. This percentage decreased to 43.6 percent in 1985, but from the projections made the trend will be for the labor force to remain at about 46 to 48 percent of the total population. This supports the general increase in the average age of the population and supports the contention that the major cause is an immigration of older working age people. The actual employment numbers indicate that fisheries and fish processor employees do not make up a large percentage of the total wage earners of Lincoln County. Most of the economic impact of the fisheries on Lincoln County is through the income earned by skipper/owners and crewmen not covered by state insurance and thus not included in labor statistics. Support services for boats and processors are also part of this impact that is not measured by employment by industrial sector figures. Such general estimates are cited below. In terms of wage employment, however, clearly retail trade, government, and the service industries predominate. Manufacturing is also important, but the paper plant is a large part of this so that even though fish processing plant workers are included here they do not make up one of the larger blocks of workers in a statistical sense.

Table 5
Major Employers in Lincoln County (1987) and City of Newport (1989)

Employer	Product	Location
Lincoln County, 1987		
Georgia Pacific Corporation	Wood Products	Toledo
Lincoln County School District	Education	Newport
Lincoln County	Government	Newport
Salishan Lodge	Resort Hotel	Glenden Beach
The Inn at Otter Crest	Resort Hotel	Otter Rock
The Hotel Newport	Resort Hotel	Agate Beach
The Inn at Spanish Head	Resort Hotel	Lincoln City
The Embarcadero	Resort Hotel	Newport
Central Lincoln PUD	Public Utility	Newport/Toledo/Siletz
Fred Meyers	Retail	Newport
Depoe Bay Fish	Fish Processing	Depoe Bay
Shilo Inns	Resort Hotel	Newport/Lincoln City
Pacific Communities Hospital	Health Care	Newport
National Forest Service	Forest Management	
City of Newport, 1989		
Lincoln County School District	Education	
Lincoln County	Government	
Pacific Community Hospital	Health Care	
Mo's Enterprises	Manufac./Restaurants	
Newport Shrimp Company, Inc.	Seafood	
The Embarcadero	Lodging/Restaurant	
Central Lincoln PUD	Utility	
City of Newport	Government	
Depoe Bay Fish Company, Inc.	Seafood	
Oregon Coast Seafood	Seafood	
Source: Greater Newport Chamber of Commerce (GNCC) n.d. [1988?]:9; GNCC n.d.		

Employment Level	Year								
	1970	1975	1980	1981	1982	1983	1984	1985	1987
Population	25,755	28,335	35,264	35,530	36,600	36,750	37,300	37,230	37,725
Civilian Labor Force	9,560	11,060	16,520	17,190	16,970	17,030	16,800	16,220	18,300
Employment	91.7%	89.3%	91.1%	90.2%	88.6%	88.5%	89.8%	89.8%	91.4%
Industry									
Agriculture, Forestry, Fisheries	43	138	211	<500	311	260	283	123	
Mining	24	29	55	<100	45	33	30	47	
Construction	156	220	523	436	376	322	380	375	
Manufacturing	1,685	1,458	2,205	2,003	1,782	1,850	1,676	1,311	
Transportation	423	292	390	371	336	345	319	338	
Wholesale Trade	108	119	212	304	323	282	256	216	
Retail Trade	1,164	1,657	2,955	2,924	2,673	2,605	2,734	2,787	
Finance, Real Estate	263	246	412	400	362	374	376	368	
Service Industries	1,033	1,175	1,788	1,817	2,098	2,145	2,312	2,510	
Other	17	91	187	167	27	67	155	187	
Government	1,660	2,170	2,630	2,660	2,690	2,630	2,630	2,620	
Railroad Workers	NA	NA	NA	NA	NA	NA	10	10	
Total County	6,576	7,595	11,568	11,443	11,023	10,913	11,161	10,892	
Source: Kearney/Centaur Division 1988:4-5 through 4-10, 4-96 through 4-98.									

B. The Fishery

A reasonably complete, if general, introduction to the Oregon ocean commercial fishing industry can be found in Oregon Ocean Resources Management Task Force 1990:55-80. The management issues of the Alaskan fisheries (conservation of the resource, economic efficiency of harvest and production, and perhaps equity or "justice") are summarized in Franklin 1990. Fisher 1980 addresses these same issues from the perspective of an active participant in the early development of the Oregon offshore joint ventures and later expansion into Alaskan waters. While MacKenzie 1987 discusses changes in the Washington fishery, many of the arguments could apply in principle to the Oregon fishery as well. However, while it is often convenient to think of Washington and Oregon fishermen as sharing a set of common interests vis a vis Alaskan fishermen in regard to fishing in Alaskan waters, there is a significant difference in the fishing fleets of the two states (and of different parts of the two states). It is also the case that many lower-48 fishermen who fish Alaskan waters have many of the same interests as those fishermen who are residents of Alaska. Indeed, in some cases it is impossible to tell them apart because of the development of very mobile, multi-species multi-gear type vessels and fishermen.

The trawler and catcher/processor fleet is predominately Seattle-based. Newport informants were very sensitive to the possibility that this gave the Washington fleet a possible competitive edge both in Alaskan distant waters and in the Oregon groundfish joint venture fisheries. This is one reason there is current interest among Newport fisherman for a shore-based whiting processing plant and there is some interest in the Pacific Fishery Management Council for an inshore allocation of whiting. Interest has also been expressed in a local surimi plant, but this does not appear to be likely to be developed in the near future, given the current uncertainties of the present processors operating in Newport.

It is quite common to discuss the fishing industry in abstract terms and to talk about the percentage of the industry's income that is produced by any given resource. For instance, the Oregon Ocean Resources Management Task Force (1990:55-56) discusses Oregon's fishing industry on a statewide basis and breaks out 1987 personal income produced by the fishing industry by "species" as follows (in millions of dollars and percentage of total):

Shrimp	\$66.9	25.8%
Groundfish	\$54.1	20.9%
Crab	\$14.6	5.6%
Salmon	\$48.7	18.8%
Aqua/Mariculture	\$ 4.6	1.8%
Offshore	\$59.2	22.8%
Other	\$11.2	4.3%

They give estimates for the personal income -- direct wages, salary, and profits plus indirect wages, salary, and profits of those goods and services supporting the fishing industry -- generated in the major Oregon fishing areas. This requires the use of a complex economic model which gives figures for 1989 as follows:

Astoria Area	\$70.8
Tillamook Area	\$10.5
Newport Area	\$95.0
Coos Bay Area	\$46.5
Brookings Area	\$15.3
Total	\$294.9

The results of a similar analysis will be used to describe the Oregon fishery for 1986, where the difficulties of discussing fisheries in terms of a limited number of years will be made more evident. Such models are also data-driven, and the results are only as good as the information used to model them. Some of the possible pitfalls that exist in the fisheries as they operate will also be discussed in terms of this need for accurate quantifiable data.

1. Newport and the Oregon Fisheries Economy

We will not trace the historical development of fisheries in Oregon, nor even in the Newport area, but will concentrate on a description of the present situation. The amount of any one resource landed in a particular year will vary, depending on a multitude of factors, only one of which is resource availability (although that is a major one). For the state as a whole, groundfish have been the single largest category taken in terms of poundage, while salmon make up the single category which provides the largest economic return (Williamson and Kriesel 1989:72-73).

Newport is one of three main fishing ports in Oregon. The other two are Astoria and Coos Bay. Figures from the Oregon Department of Fish and Wildlife for commercial fishing landings by weight and value at Newport for 1981 to 1986 are presented in Table 7. A summary of this table for 1981 and 1986 appears as Table 8. These are followed by Tables 9 - 12, which present landings information for Newport, Astoria, Coos Bay, and the state as a whole for 1986, along with personal income contribution calculations from the West Coast Fisheries Development Foundation model. Comparing which ports have entries for which species and activities provides a quick way to determine the present character of that port's fisheries activity. Each of the three has a specialization that was remarked upon by informants, as well as being indicated by such statistical measures as these.

Table 7 indicates that Newport is a place where many different species are landed. Indeed, most resources are quite variable over time. Rockfish, for example, were harvested at close to 27,500,000 pounds in 1981/82, but only at 8,400,000 pounds for 1986. Flatfish and tuna are similar. Salmon were stronger in 1985/86 for Newport fishermen than they had been, but Newport does not have a strong salmon fishery. As seen from Table 9, the Newport salmon fishery is a specialized ocean troll fishery. The other species that are usually of the most economic importance (although it varies yearly) are cod/rockfish (bottomfish), shrimp, and dungeness crab. In addition, Newport is the stronghold of the Oregon component of the Alaska JV fleet and longline fleet, and has the predominant role in Oregon's presence in the Alaska JV fleet as well as in the Oregon Whiting JV fleet. Newport's Oregon fishery-related personal income was about 30 million dollars in 1986, in addition to about 32 million dollars derived from distant water fisheries (both Alaska and Oregon).

Table 7
Commercial Fishing Landings by Weight (1981 - 1986) and Value (1981 and 1986)
Newport, Lincoln County, Oregon

Major Species	Weight of Landings (pounds)						Value of Landings	
	1981	1982	1983	1984	1985	1986	1981	1986
Bonito, Pacific	0	0	854	0	0	0	0	0
Crab, Lobster, Crayfish	1,632,140	1,732,454	1,517,102	1,514,050	2,871,905	1,420,247	1,074,500	2,020,039
Shrimp, Prawns	7,009,028	4,440,303	1,409,010	1,276,205	5,700,175	7,764,571	4,316,711	4,147,017
Flatfish	4,227,421	6,105,713	3,902,317	1,700,465	1,737,200	1,641,078	1,403,100	909,400
Hake, Cod	13,060	3,101	20,005	13,100	1,220	416,238	3,003	20,350
Herring, Anchovy	01,007	10,041	121,507	139,600	157,904	216,324	42,634	63,741
Langood	730,750	1,042,405	870,603	465,260	667,042	341,208	104,603	103,568
Mollusk	994,497	627,855	2,507,075	2,976,881	2,430,500	133,573	315,004	51,240
Other	1,444	955	22,455	5,355	5,551	4,700	1,420	1,045
Rockfish	27,366,875	27,420,367	15,191,804	12,655,040	11,310,700	6,374,036	4,634,440	2,505,420
Sablefish	1,047,415	4,565,640	2,996,456	4,007,611	3,357,976	3,166,832	450,131	1,255,600
Salmon	1,455,012	1,022,307	554,741	107,223	533,367	1,711,014	2,632,262	1,427,603
Sanddab	30,562	173,209	306,671	146,121	85,120	30,820	6,653	10,207
Shark, Skates, Ray	14,005	11,320	24,220	6,220	7,407	140,010	1,028	60,752
Smelt	0	0	4	0	4	0	0	0
Sturgeon	1,717	5,206	5,022	5,951	0,248	782	630	400
Tomcod	0	0	15	0	0	0	0	0
Tuna	1,385,010	305,001	835,916	442,671	434,097	470,200	1,472,556	254,450
Subtotal: Fish	37,205,062	40,676,353	24,853,878	20,015,917	18,316,894	16,523,075	11,134,101	6,047,860
Total	46,640,500	47,777,055	30,457,855	25,783,122	29,369,402	25,049,400	17,742,725	12,867,200

Source: Oregon Department of Fish and Wildlife. Olympia, n.d. as cited in Keamey/Centaur Division 1980:4-54.

Table 6
Commercial Fishing Summary by Major Species
Newport, Oregon, 1961 & 1996

Major Species	1961			1996		
	Percent of Total Pounds	Percent of Total Landings	Unit Price	Percent of Total Pounds	Percent of Total Landings	Unit Price
Donito, Pacific	0.0	0.0	\$0.06	0.0	0.0	\$0.06
Crab, Lobster, Crayfish	3.5	11.1	\$1.21	5.5	15.7	\$1.41
Shrimp, Prawns	15.0	24.3	\$0.62	30.0	32.2	\$0.53
Flatfish	0.0	8.4	\$0.35	8.3	8.3	\$0.40
Hake, Cod	0.0	0.0	\$0.30	1.0	0.2	\$0.07
Herring, Anchovy	0.2	0.2	\$0.47	0.8	0.7	\$0.43
Lingcod	1.0	1.1	\$0.26	1.3	0.8	\$0.30
Mollusk	2.1	1.0	\$0.32	0.5	0.4	\$0.30
Other	0.0	0.0	\$0.08	0.0	0.0	\$0.22
Rockfish	50.5	20.1	\$0.17	32.4	20.0	\$0.31
Sablefish	3.0	2.0	\$0.25	12.3	0.0	\$0.40
Salmon	3.1	10.0	\$1.05	6.0	11.1	\$0.83
Sanddab	0.1	0.1	\$0.32	0.1	0.1	\$0.33
Shark, Skates, Ray	0.0	0.0	\$0.11	0.0	0.5	\$0.47
Tuna	3.0	0.3	\$1.05	1.0	2.0	\$0.54
Subtotal: Finfish	70.4	62.8	\$0.30	63.0	51.7	\$0.40
Total	100.0	100.0	\$0.30	100.0	100.0	\$0.50

Source: Oregon Department of Fish and Wildlife, cited in Kearney/Centaur Division 1998:4-55. Unit price is expressed in 1996 dollars.

**Table 9
Fishing Activity Summary
Newport, Oregon, 1986**

Species	Pounds Landed	Personal Income Contribution (\$)	Average Income Per Pound Landed (\$)
Troll Coho	933,207	1,973,576	2.11
Troll Chinook	910,917	3,038,632	3.34
Albacore Tuna	481,012	776,744	1.61
Sturgeon	792	2,508	3.17
Halibut	147,413	423,250	2.87
Cod/Rockfish	9,708,645	6,098,940	.69
Sole/Flounder	1,516,873	1,070,658	.71
Black Cod (domestic market)	2,425,699	1,355,911	.50
Black Cod (export market)	1,473,458	1,405,762	.95
H&G Whiting	420,664	118,484	.27
Shrimp	7,764,569	10,404,516	1.34
Dungeness Crab	1,604,538	3,555,136	2.22
Scallops	8,649	88,672	10.25
Herring	218,324	146,456	.67
Sharks	2,299	6,304	2.74
Total	27,676,959	30,465,549	---
Activity:			
Oregon processing		11,530,528	
Oregon Commercial Fishing		14,972,728	
Oregon Whiting JV Fleet		5,437,158	
Alaska JV Fleet		14,104,452	
Alaska Crab/Longline Fleet		13,704,388	
Source: West Coast Fisheries Development Foundation 1987:9.			

Table 10 Fishing Activity Summary Astoria, Oregon, 1986			
Species	Pounds Landed	Personal Income Contribution (\$)	Average Income Per Pound Landed (\$)
Troll Coho	56,494	129,664	2.30
Troll Chinook	58,461	211,592	3.62
Albacore Tuna	1,423,523	2,484,088	1.75
Sturgeon	222,354	796,760	3.58
Halibut	745,767	2,310,080	3.10
Cod/Rockfish	10,863,179	8,124,232	.75
Sole/Flounder	7,353,173	5,852,480	.77
Black Cod (domestic market)	1,471,498	873,696	.59
Black Cod (export market)	295,524	299,584	1.01
H&G Whiting	112,773	33,328	.30
Shrimp	12,788,766	18,703,000	1.40
Dungeness Crab	900,198	2,147,496	2.39
Sharks	3,931	11,784	3.00
Other (mostly Salmon - see text)	6,340,178	12,796,910	NA
Total	42,634,9079	54,77,694	---
Activity:			
Oregon processing		21,149,688	
Oregon Commercial Fishing		29,926,724	
Oregon Whiting JV Fleet		1,491,704	
Alaska JV Fleet		4,012,848	
Alaska Gillnet Fleet		9,661,004	
Alaska Crab/Longline Fleet		747,496	
Source: West Coast Fisheries Development Foundation 1987:9.			

Table 11 Fishing Activity Summary Coos Bay, Oregon, 1986			
Species	Pounds Landed	Personal Income Contribution (\$)	Average Income Per Pound Landed (\$)
Troll Coho	363,914	910,148	2.21
Troll Chinook	1,830,250	6,379,934	3.49
Albacore Tuna	492,286	788,376	1.60
Sturgeon	391	1,304	3.34
Halibut	46,729	138,080	2.95
Cod/Rockfish	4,964,824	3,678,018	.72
Sole/Flounder	6,136,254	4,536,762	.74
Black Cod (domestic market)	2,388,063	1,398,200	.59
Black Cod (export market)	684,877	600,824	.97
H&G Whiting	391,883	111,192	.28
Shrimp	7,380,982	9,959,820	1.35
Dungeness Crab	989,947	2,196,402	2.22
Herring	1,976	1,384	.70
Sharks	1,883	5,424	2.88
Total	25,626,259	30,705,868	---
Activity:			
Oregon processing		11,358,022	
Oregon Commercial Fishing		15,791,390	
Oregon Whiting JV Fleet		1,908,492	
Alaska JV Fleet		2,969,188	
Alaska Gillnet Fleet		346,482	
Alaska Crab/Longline Fleet		1,443,148	
Source: West Coast Fisheries Development Foundation 1987:9.			

Species	Pounds Landed	Personal Income Contribution (\$)	Average Income Per Pound Landed (\$)
Troll Coho	1,904,578	5,890,272	3.09
Troll Chinook	3,370,379	16,126,160	4.79
Albacore Tuna	2,461,004	6,677,888	2.27
Sturgeon	485,588	2,309,888	4.70
Halibut	919,167	3,580,768	3.90
Cod/Rockfish	27,405,856	26,652,512	.97
Sole/Flounder	16,213,797	16,216,480	1.00
Black Cod (domestic market)	7,111,138	5,468,768	.77
Black Cod (export market)	3,155,611	4,242,400	1.31
H&G Whiting	926,681	363,920	.30
Shrimp	33,857,468	61,423,616	1.81
Dungeness Crab	4,660,733	14,960,592	3.21
Scallops	8,649	122,848	14.20
Herring	220,300	210,464	.96
Sharks	8,857	33,888	3.83
Other (mostly Salmon - see text)	7,820,741	21,911,600	NA
Total	110,560,537	186,192,064	--
Activity:			
Oregon processing		67,022,208	
Oregon Commercial Fishing		103,449,328	
Oregon Whiting JV Fleet		13,219,488	
Alaska JV Fleet		31,102,272	
Alaska Gillnet Fleet		13,245,536	
Alaska Crab/Longline Fleet		18,391,968	
Source: West Coast Fisheries Development Foundation 1987:9.			

For Newport, based on statistics through 1986, tuna landings peaked in the early 1970s and have been fairly low since 1979. Dungeness crab peaked in 1980 and has been more-or-less constant at a level of about one-third of that peak. Groundfish peaked in the early 1980s and continue to be landed at rates equal to at least half of that peak. Salmon were strong in the late 1970s and appear to be so in the late 1980s as well. Pink shrimp peaked in 1978, and may be recovering from a deep depression in 1983/84. Scallops peaked in 1983/84 and is a very cyclical, boom-or-bust, resource.

Astoria's big fisheries are gillnetted salmon (in the "other" category on Table 10), shrimp, and bottomfish (cod/rockfish and sole/flounder). Dungeness crab, tuna, and halibut are also important. Astoria is the most active port in terms of landing Oregon fish -- about \$4 million worth of personal income in 1986. Astoria is the home of most Oregon gillnetters, since this is the site of the in-river Oregon salmon fishery. Thus, it makes sense

that most gillnetters who go to fish Alaskan waters from Oregon are from Astoria. In addition they do participate in Alaskan crabbing and longlining and are part of the Alaska JV fleet. This added another 14 million dollars of personal income in 1986, for a total of about 68 million dollars.

Coos Bay is another location for the troll salmon fishery, and was more productive than Newport in 1986. Coos Bay also fishes for cod/rockfish and sole/flounder, and although the mix may be different took about the same amount as Newport in 1986. Shrimp and Dungeness crab were also roughly equivalent. Where the two ports differ is that Coos Bay boats do not much participate in fishing Alaskan waters or in Oregon JV operations. This may be related to available harbor and support facilities, but the reason for this was not explored.

By comparing Table 12, the total state, to each of the three community tables, it is possible to estimate how much of the state total each of the ports can attribute to its activity. There are difficulties in this approach, however. Informants report that as many as 50 percent of Newport boats that fish for shrimp will deliver to Astoria rather than to Newport, primarily because it is closer to where they catch their shrimp. Conversely, salmon and other fish caught by non-Newport boats sometimes land at Newport. The overall balance, Newport informants say, is negative (more "Newport-caught fish" landed elsewhere than "non-Newport-caught fish" landed in Newport) so that the official statistics understate the effective economic contribution of fishing to Newport, since this tendency to land harvested fish at the nearest port separates the economic benefit of processing the fish from the economic effect of the fisherman receiving payment for it.

2. Difficulties in Measuring the Actions and Effects of the Newport Fishing Fleet

Landing statistics may need to be analyzed in a more elaborate manner. As a general rule, informants report that Newport boats will land fish at the nearest port, unless they are after groundfish. The reasons are related to the dynamics of the fisheries. Most species other than groundfish are in demand and can be sold to nearly any processor. Fishermen now tend to range long distances and fish many different fisheries for short periods of time, and are often not near enough to a "known" processor to deliver to him. Freshness is a strong quality point. For groundfish, on the other hand, demand is less strong and the profit margin for the processor is much lower. Furthermore, processing groundfish ties up more of his plants' capacity for a longer period of time than other species. Most Newport fishermen will not go out fishing for groundfish without a verbal agreement with a processor to buy them (such contracts are never written, and seldom if ever broken). Thus, a Newport fisherman who harvests groundfish anywhere on the Washington, Oregon, or California coast will probably deliver them to Newport (or a JV processing ship).

This point is often broadened to apply to the joint venture fisheries off the California, Oregon, and Washington coasts. These fish are not even landed before being exported and

hence are usually not included in the statistics. The same is true of the Alaskan distant water fleet, since many of these boats (perhaps half) are actually registered in Kodiak or Dutch Harbor, although partially owned by Newport residents and crewed by Newport men. The informant claimed that much of the economic benefit of the catch of these boats returned to Newport through the profit made by the skipper and the wages or share paid to the crew, since he claims that most Newport-owned boats are skippered and crewed by Newport fishermen. It is very difficult to quantify this with any of the economic measures, however, since they are not designed to capture this information. Focht 1986 and Radtke and Carter 1986 attempt to at least provide rough estimates for this economic flow. Their emphasis is on participation of lower-48 fishermen in the non-groundfish fisheries, however.

Newport is not a strong salmon fishing port, in terms of numbers. Troll-caught salmon are considered the highest quality salmon, however, since they are processed and iced minutes after being caught and (unless gaffed inexpertly) are in the best physical condition of any harvested salmon. Coos Bay has the same sort of salmon fishery, while Astoria can take advantage of the river runs of salmon to fish with very efficient gillnets. Some of the salmon landed in Newport is off of boats from elsewhere. Informants say that Newport fishermen tend not to be gillnetters, and that gillnetters tend to be based out of Astoria. Newport boats tend to concentrate on shrimp, crab, and perhaps groundfish. There is a very large contingent of Oregon boats that fish Alaskan waters for salmon, but none (or very few) are from Newport. The Oregon salmon boats that operate in Alaska are from Astoria. Newport boats tend to combine salmon trolling, crabbing, and halibut longlining. They will fish California, Oregon, Washington, and Alaskan waters (and British Columbia as far as regulations allow).

Informants identify a number of boats based in Newport participating in distant water fisheries. This is the same sort of information that Radtke bases much of his work on. The most reliable current estimates are that 23 boats participate in joint venture whiting operations off of California, Oregon, and Washington. Ten boats participate in Alaskan joint ventures and crabbing, and ten other boats participate solely in the Alaskan crab/longline fisheries (and not Jvs). The bottom line total gross (rough estimate by the informants) for these 43 vessels is \$35.0 million. There are, of course, boats from other Oregon ports participating in these fisheries as well, but informants are able to confine himself to the Newport boats because of their familiarity with them -- they participate in the fishery themselves. It can be seen from these estimates that the Alaskan and distant water fisheries have certainly increased in size since 1986, if the estimates of participation at that time were at all accurate (West Coast Fisheries Development Foundation 1987:9).

This is the general statement that Newport informants use to characterize the growth in the Newport fishery in recent years. They say that the local fishery has been relatively static in Newport, with the catch remaining about the same and supporting roughly the same number of boats for the last ten years. There has been a tendency for smaller boats to be replaced by larger ones, which has increased harvesting capacity and diversified the fishery to some degree. The 35' to 45' boats must now fish multiple fisheries to be economically viable.

Much of the fleet is in this size range, although there are of course many larger boats as well. Before 1980 the number of boats had been increasing quite rapidly for a short span of years. Now most of the growth is in new boats commissioned from shipyards in the south (where the best deals can be made) for fishing in Alaskan waters. Many of them are based in Alaskan ports and see Newport only for overhauls and repairs. The gross incomes of these vessels has been increasing rapidly in the past few years. This pattern is consistent with the limited set of known data points and suggests that the Oregon fleet may be in the process of increasing capitalization, although perhaps aiming at a different market from the Washington (Seattle) fleet. The degree to which the proceeds from the operation of such capital intensive operations are returned to the community of ownership should be investigated, as it is possible that the economic multiplier may be quite different for different scale operations. The intensification of fishing and the concentration of profits into fewer ownership hands may have economic effects beyond those of gross receipts and net profit or loss.

3. Newport Seafood Processors and Other Associated Activities

As mentioned above, Newport has about four processors that informants classify as major in their role in the community of Newport, one which used to process fish in Newport but is now serving strictly as a buying station for a plant in another part of the county, and a host of smaller enterprises (mostly seafood buyers for retail markets and restaurants, both local and further away). There is also a seafood broker in the county who works mostly by phone and on paper. None of the processors handle Alaskan product and Newport boats never land Alaskan fish in Washington or Oregon unless they are returning to port anyway after halibut closes. In such a case they may bring down their last load of halibut if the price differential seems reasonable.

Three of the four big processors handle a wide range of products -- crab, salmon, shrimp, herring, tuna, and groundfish. All of the fish are caught by local boats, many of which also fish in Alaska, but not for Newport shore plants. Most processor managers were of the impression that changes in the management of the Alaskan fisheries would have little effect on their operations in the short term. In the long term, as such changes affect market conditions, there will be some repercussions which are unknowable at this time. Most informants from the processing sector remarked that those who will be most rapidly affected by Alaska fisheries management changes would be those local fishermen who do fish Alaska waters and the gear suppliers. If local fishermen are not able to continue fishing in Alaska and have difficulty sustaining a year-round operation, the local economy, and especially local suppliers, will feel an impact. Even this should not reduce the Newport plant's ability to maintain a steady supply of fish, as they now have an adequate supply and one reason local fishermen go to Alaska to fish is that it is presently more lucrative (even if less predictable and more dangerous) than the local fishery.

The city of Newport would like to have another large fish processor move into the waterfront, essentially to replace a processor who ceased operations some time ago. The city has had title to this processing facility for over two years and has expended quite a bit of effort attempting to sell it. Most prospective buyers want terms that are too generous, however, as it is not clear that the present economy will support another processor in Newport. Informants say that three processors have closed their doors in Newport the recent past. A group of fishermen did look at the possibility of operating a whiting shore-based plant in the facility, but decided that the uncertainty of the inshore/offshore issue, other potential supply problems, the administrative and managerial problems associated with a plant (as opposed to fishing), the condition of the property, and alternative uses of the money required all dictated that the time was not yet right for such an operation (also the assessment of CH2M Hill 1989:4-13). The most economically lucrative use of this property would be for some form of tourist related enterprise, but local restrictions will not allow the facility to be used for other than commercial fishing or industrial processing, and local fishing interests have no desire to see these changed. They want to maintain the harbor as a "working harbor" rather than see it made into an artificial attraction.

The port of Newport is in need of deep water berths for ships in the 70 to 120 foot range and this is one alternative use of this property (CH2M Hill 1989). This was confirmed in conversations with individuals at the planning department and by local informants. It thus appears that boats need to be larger to be competitive. It also appears that processing plants are becoming more efficient at handling fish, since three fish processing plants have closed in Newport in the last few years while the Newport fishing fleet has remained stable in size and may have increased harvesting capacity. Local fishermen may also have increased fishing efforts in non-local waters, even more so that has been discussed above.

Newport processors do not seem to hire a great number of transient plant workers except in the summer when salmon is at its peak. This is when housing is especially critical. Other operations seem to run with a basic crew made up of residents.

4. Tourism and the Fish Industry

The discussion here is closely related to the last section. All informants agreed that many of the tourists and visitors who come to Newport do so because of the fishing fleet. The waterfront is crowded with seafood stores and restaurants serving seafood, and there are many charter boats available for fishing or sight-seeing. The major manufactured attractions, Ripley's Believe It or Not museum and the Undersea Gardens, stress nautical connections. An aquarium has recently been opened by the south marina, which is itself devoted primarily to pleasure boats. In theory, a pleasure boat could bump a commercial boat for space in this section of the harbor (in practice it probably would not come to that, as many of the slips in this facility are too small for commercial boats, most of which prefer to be in the other section of the harbor in any event). All of these activities derive

economic benefit from the fishing industry, and yet are counted as separate economic sectors.

Two new hotels have been built in the last year, and two others in the several years before that. Affordable housing is in short supply. Yet when local fishing activity slackens, as for example when boats could not cross the bar for 28 days due to weather conditions, there was a real economic slowdown. The processors were idle, the vacancy rate went up, and every retail sector began to soften.

5. The Port of Newport

The port of Newport consists of essentially three divisions -- commercial fishing, pleasure boats and tourism, and shipping or freight. Deep draft commercial shipping is perhaps the fundamental basis for all other marine-related industry in the Newport area. As long as the port averages a throughput of 25,000 tons a year, the federal government makes funds available for dredging for channel maintenance. In essence, this serves as a subsidy for all other users of the harbor (commercial fishing fleet, pleasure/tourist boats), as well as serving as the basis for the most profitable unit of the port.

The most pressing need is for more berthing space for boats. This was the motivation for the city assuming the responsibility for the South Beach Marina. This is a new operation in the sense that the city has only operated it for four years or so. Before that it was idle for some years. It had been operated as a private facility for six years before that, but was never very successful. The first two years of city operation were very rocky, but the last two have gone very well. The South Beach Marina is primarily for pleasure craft, as it is less protected and has a shallower draft than the main commercial boat harbor. There are still about twenty commercial boats berthed at the South Beach Marina, which has 601 slips in all. The number of pleasure boats berthed here has doubled in the last two years.

The commercial fleet is concentrated on the north side of the bay. The big boat dock has only 13 slips, so extensive use is made of rafting. There are only 420 slips on the north side, and sometimes as many as 500 or 600 boats who want to tie up. The harbor is in the process of restructuring its docks, and is looking at moving the main breakwater out 200 feet to increase the size of the harbor.

Newport has excellent support facilities for its fishing fleet, which is one of the reasons it has the largest home port fleet in Oregon. There is a shipyard which does extensive modifications on local boats, lengthening and broadening them for the Alaskan fishery especially. Most other facilities are available as well.

C. Infrastructure

The city of Newport water system is the largest in the county, providing service to more of the population (8,135) than any other county system (Kearney/Centaur Division 1988:4-30). It is the most fully developed treatment system in the county, providing five stages of treatment: disinfection, sedimentation, filtration, taste and odor control, and fluoridation (Greater Newport Chamber of Commerce n.d.:7). Solid waste is hauled to a landfill. On route recycling is offered in Newport. Private firms handle solid waste disposal. Electrical service presents no problems and is moderately priced and natural gas connections are available. Phone service is good and there is a local cable television service. There is a weekly local newspaper. The city of Newport is served by a sewage treatment plant.

Newport is road connected to the north, south, and east. Some of these roads are relatively narrow, curving, and congested. Many of the bridges are even narrower and potentially in need of replacement. The two highways leading to Newport serve as major streets within the city and can become quite busy. The Southern Pacific Railroad serves Newport with freight rail service from Toledo. The local air field does not service commercial flights, but is available for charter flights. Greyhound bus lines does service the community. The marinas have berths available for visiting boats. There are relatively few local rental cars (mainly from auto dealers) and only one taxicab business listed in the phone book. There is a single public bus which covers the entire community in a complex route which it traverses once an hour. Traffic studies have demonstrated that the most common places for traffic accidents in Newport is where the north-south highway joins the east-west highway in the middle of the city, and a few places where there are streets which turn off the north-south highway at less than or greater than ninety degrees within the city.

Newport has two elementary schools, one middle school, and one high school. Oregon Coast Community College is located in Newport and a new public library recently opened. There is also a large and active Center for the Visual Arts and the Newport Center for the Performing Arts.

Based on somewhat dated information, the Newport Police Department has sixteen officers and the fire department has five paid employees and forty volunteer members (Kearney/Centaur Division 1988:4-31,4-32). There is a hospital in Newport (one of two in the county). This hospital has 48 acute-care beds, of which 7 are intensive-care and 8 are obstetrics beds. The hospital is currently in the process of expansion. An ambulance service is based in Newport. Newport has 24 physicians, 12 dentists, 6 chiropractic physicians, 5 optometrists, 1 ophthalmologist, 1 dental lab, and 2 veterinarians. Perhaps the most noticeable facilities are the many motels/hotels in the area, several of which have just opened. New hotel/convention centers have been in construction for the past several years and capacity has doubled or tripled in the past five to ten years.

III. SOCIOCULTURAL PROFILE

A. Social Organization

The city of Newport has a city council of seven elected members. There is also a paid city manager and a paid assistant city manager. Lincoln county is governed by three elected commissioners. Both the city and the county have planning departments and a comprehensive land use plan is in effect. In addition there is an active Chamber of Commerce and several non-governmental agencies that participate in the planning/development process. Among these are the Council of Governments (located in Corvallis), the Oregon Coastal Zone Management Association, and the Port of Newport. The State of Washington and the federal government both have agencies which have daily dealings with Newport people. The Washington State University system extension service employs the Sea Grant marine extension agents who provide a great deal of information to a number of people. In addition, fishermen, processors, and others involved in the industry participate in regulatory hearings and other planning activities. Little descriptive or analytical information exists on any of these organizations, and field time was too limited to allow extensive efforts to be made contacting each group. Our emphasis was placed on population characteristics and the organization of the fishery.

B. Sociocultural Values

There are at least 18 churches in Newport, representing a wide-range of denominations. Newport is a relatively small community, yet diverse enough so that no one denomination exerts that much more influence than any other. Certainly Newport is pluralistic in this regard, as opposed to many smaller communities which may approach a near unity of membership in a single denomination (at least nominally). For this reason we spent little time investigating religion in Newport.

Views on resource management, however, are fundamental to the description of the fishery. It is assumed that such attitudes reflect behavior in the fishery and are congruent with positions held on fish allocations, restrictions on lumber activities, and environmental safeguards in general. What was most interesting was that people were not all that worried about the Alaskan fishery because they did not see it as affecting them. The one concern that was commonly voiced was that if the Bering Sea was overfished that the large factory ships may then show an interest in the Washington-Oregon area, which would be very detrimental. The trawlers operated by local fishermen are accepted as responsible operations, as they generally cooperate with other fishermen in reducing gear conflicts and bycatch problems. They are also much smaller than factory ships and deliver onshore (or offshore to JV processors if there is no American processor for the resource in question, such as Pacific whiting). In this regard they are no different from any other community with an in-place onshore capacity to process all the fish that are locally available.

This is no doubt tied up in the concept of the fisherman as the last true independent, able to reap large rewards if willing to take the necessary risks and put in the required work. Barry Fisher is perhaps the most public example of such a figure from Newport. In a recent interview his adherence to this view of life cannot be missed (Copp 1990). This is also a firsthand perspective on the development of the fishery.

Local informants in Newport also have strong views about what they see as the effects of local development. Fishermen often phrase this in terms of ensuring that the harbor maintains its integrity as a "working" harbor. This again is a theme held in common with other onshore communities (Bellingham, Kodiak). What they see opposed to this is a sort of artificial Fishermen's Wharf sort of development which interferes with the actual catching and processing of fish, which can, after all, be a very messy business. The general population more often phrases such concerns in terms of there now being too many people and too much traffic, and in comments about how the nature of the community has changed.

Subsistence activity is not significant in the Newport area. More important locally is the tourist and the sport fishing industry. Whether both recreational and commercial endeavors can develop and grow in Newport at the same time depends upon the perception of the resources available, which again returns to values. It is clear that a certain segment of the population thinks of Newport as a fishing town. Another segment realizes the importance of commercial fishing, but also may wish to develop more of the waterfront to cater to tourists and increase profits that way. At least one informant suggested that the fishing industry resists the transformation of space once used for commercial fishing activities to tourism. They prefer to see such areas remain connected to fishing.

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