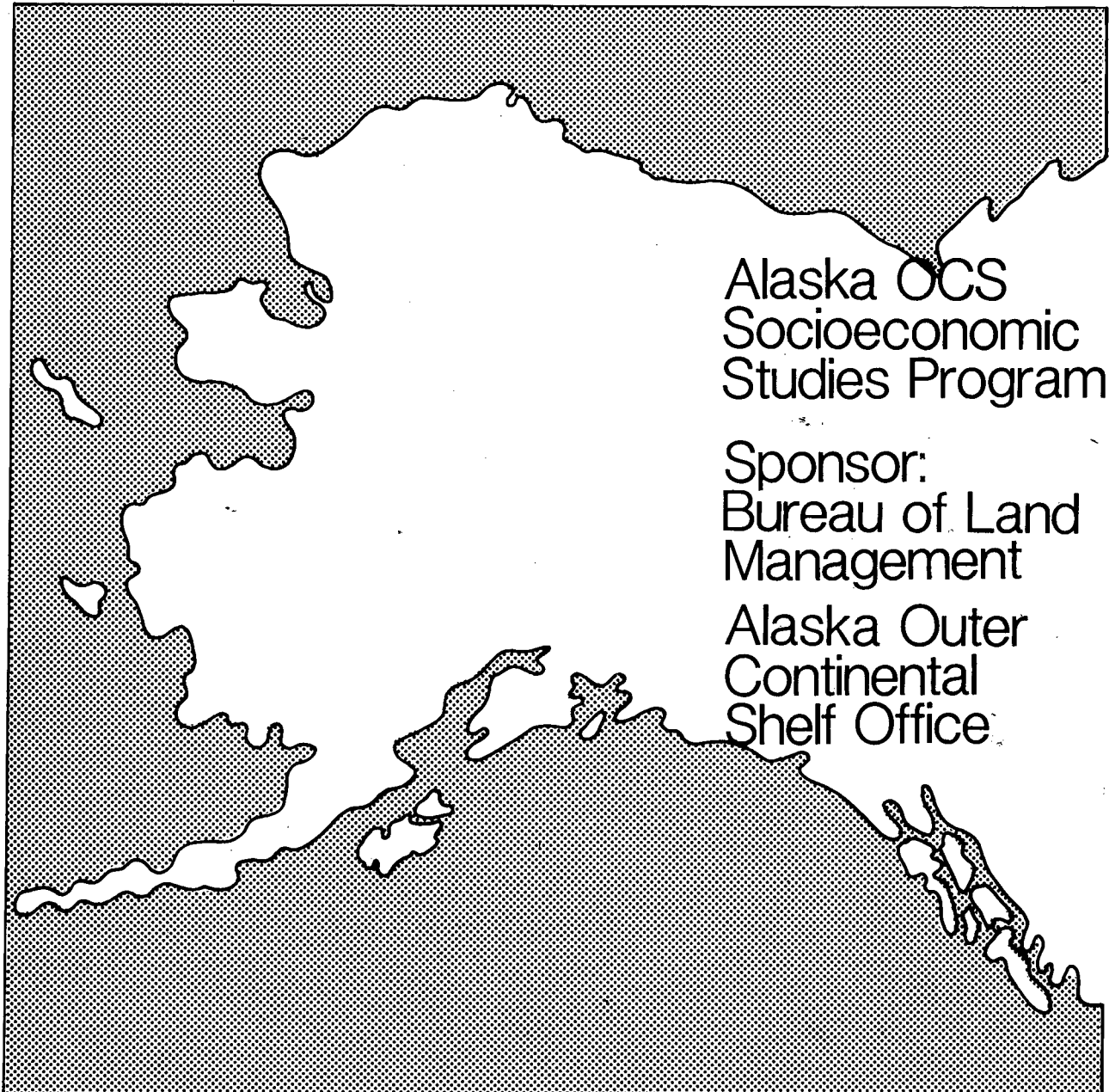


**Technical Report  
Number 71**



**ALASKA PENINSULA SOCIOECONOMIC  
AND SOCIOCULTURAL  
SYSTEMS ANALYSIS**

TECHNICAL REPORT 71

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ALASKA OCS SOCIOECONOMIC STUDIES PROGRAM  
ALASKA PENINSULA SOCIOECONOMIC AND SOCIOCULTURAL SYSTEMS ANALYSIS

PREPARED FOR

BUREAU OF LAND MANAGEMENT  
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ALASKA OCS SOCIOECONOMIC STUDIES PROGRAM  
ALASKA PENINSULA SOCIOECONOMIC AND SOCIOCULTURAL SYSTEMS ANALYSIS

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## ABSTRACT

This report provides detailed information concerning both the intracommunity socioeconomic and sociocultural systems and structures and the intercommunity linkages extant in selected communities located on and in the vicinity of the Alaska Peninsula. Communities included in this project are: Pilot Point / Ugashik, Port Heiden, Nelson Lagoon, False Pass, King Cove, and Sand Point. The geographic area includes portions of both the ADF&G Alaska Peninsula Management Area as well as the Bristol Bay Management Area.

Secondary data sources are utilized to the extent practical; however, considerable field study was accomplished. The field study yielded primary data for many of the sociocultural topics while also providing necessary insights regarding the essence of the communities.

Seafood production activities dominate in each location. The salmon fisheries are by far the most important. Local participation is greatest in the harvesting sector. Topics addressed in the report include: Fishing locations, patterns, gear types and strategies, effort, catch, value, permit and vessel utilization, and employment. Recent increases in salmon runs have had significance in all of these communities. Purse seining has significantly increased yet drift gillnetting tends to bring the most communities together on common fishing grounds. Successful fishing seasons have brought not only increased investments and participation in the industry but also increased development of other economic activities. These are primarily retail enterprises at the local level.

The communities range in size from a population of 13 in Ugashik to 629 in Sand Point. Subsistence protein dependence is highest in the communities which have a more narrow economic base -- up to 90% in Pilot Point / Ugashik compared with about 40% in Sand Point.

Kinship is the major determiner of social organization in the communities. People of the Aleut ethnic origin are common to all of the locations; yet, the Russian and Scandanavian influence is apparent

throughout the region. Religion, education and socio-political organization are also addressed in the report.

King Cove, Nelson Lagoon, False Pass and Sand Point all fall within the Alaska Peninsula region while the remaining communities are more identified with the Bristol Bay region. Linkages between the Alaska Peninsula communities are of medium to low intensity with the social arena exhibiting the greatest level of linkage. Cultural linkages have good potential for high intensity but little of it has been realized. Economic and political linkages are low. Linkages between communities in the Bristol Bay region are in the medium to high range. Economic activities, primarily fishing, are strongly linked with Pilot Point and Port Heiden notably sharing fishing grounds to a significant level. Political and social linkages are medium.

Very little extraregional linkage is evident between the two areas. However, extraregional ties exist between the Alaska Peninsula communities and the Aleutian Islands at a medium level with low level linkages to the Chignik area and Anchorage. Extraregional links from the Bristol Bay communities are of medium strength with the Chignik area and are at a low level with Anchorage.

## CHAPTER 1

### INTRODUCTION

#### 1.1 GENERAL BACKGROUND AND PURPOSE

This report focuses on the socioeconomic and sociocultural structures and systems of the communities located on the Alaska Peninsula. It is part of the BLM's Alaska OCS Socioeconomic Studies Program. It is related to potential impact from oil and gas OCS development which may occur in the vicinity of the Alaska Peninsula--particularly those located within Lease Sale 75 (The Northern Aleutian Shelf).

The study area for the report consists of the Alaska Peninsula Management Area and the Ugashik District of the Bristol Bay Management Area, both as defined by the Alaska Department of Fish and Game (see Exhibits 3.1 and 3.2). Within the study area, the communities addressed by this report include Sand Point, King Cove, False Pass, and Nelson Lagoon in the Alaska Peninsula area, and Pilot Point and Ugashik in the Bristol Bay area. Cold Bay is the only other community within the study area; however, since it is a regional transportation center and marginally involved in seafood harvesting and production activities, it was not included.

The period emphasized in the report is 1975 through 1981 to provide an analysis of recent trends. Earlier periods are also addressed as they are relevant to current circumstances.

The purpose of the study was to provide baseline community level information that would indicate both the significance of the seafood production activities to both socioeconomic and sociocultural characteristics of the community and the potential mechanisms through which impacts from OCS development would likely be visited on this region in Alaska. The primary concentration in the report is on community level information. Linkages among communities are described as they would have potential for OCS impacts. An overview of salmon harvesting activities in the study area is included to better define the relative position of the communities at that level.

Special attention is paid to the social organization and integration dynamics that are unique to individual communities. Cross-cultural features are discussed insofar as

they enhance the understanding of contemporary community functioning. Wherever possible, recent trends and changes affecting local socioeconomic and sociocultural structures and systems are identified and discussed for the selected communities.

Earl R. Combs, Inc. (ECI) was the primary contractor for the project. ECI's project manager was Jeffrey Tobolski. Lemuel Guluka served as project leader. Other key ECI staff members included Kwang Im and Daniel Trefethen. Chief subcontractor on the project was Dr. Stephen Langdon of the University of Alaska at Anchorage and he was assisted by Taylor Brelsford. The ECI team was primarily responsible for analyzing fisheries harvest and production statistics while Langdon and Brelsford were primarily responsible for community-level socioeconomic and sociocultural information.

## 1.2 METHODOLOGIES AND DATA SOURCES

A variety of methodologies and data sources were required for this report. Both primary and secondary documents were used. Of major importance were printouts of landings data organized by statistical area, week, gear type, and species provided by the Alaska Department of Fish and Game (ADF&G) for the Alaska Peninsula Management Area. Similar, but not strictly comparable, data was obtained from Bristol Bay Area Management Reports prepared by ADF&G. Alaska Peninsula Area Management Reports provided additional supplementary data as well. The Commercial Fisheries Entry Commission (CFEC) provided landings and gross earnings data for the fishermen from the various communities. It should be noted that this data was presented by CFEC in a manner that preserves the confidentiality of individual fisherman information. Seafood processing statistics were provided directly by the processing firms operating in the area. However, the influx of floating processors in the past two years operating in these areas, from whom information was not obtained, should be noted.

Additional documentary sources were available in many communities on local community conditions. These included comprehensive plans, grant applications, local government financial data, and city council and school board minutes.

Ethnographic, historic, demographic, and various government sources were used to aid in the reconstruction of the cultural characteristics and relationship of the communities as well as the historic changes that have led to their current condition. Since the literature on these communities and their inhabitants is relatively meager, much of the historical material was obtained from key person



interviews of elderly residents during the fieldwork.

Fieldwork periods from ten days to three weeks were spent in each of the communities (with the exception of Ugashik) during the summer of 1981 by Langdon and Brelsford. Informal interviewing was conducted with a number of fishermen in each community on the conduct of the local fishery, past and present. A wider circle of community residents were informally interviewed on broader sociocultural topics such as kinship, subsistence, religion, and political participation. Key person interviewing was done with processing personnel to obtain information about processing personnel characteristics, seasonal employment patterns, and other aspects of local processing. Key person interviewing was done with political figures and city employees to obtain a picture of local political processes and linkages to other communities and regional organizations. Key person interviewing was done with school personnel, health personnel, and local government employees.

In addition to informal and key person interviewing, observation was another important methodology used in the fieldwork. A wide variety of activities were observed in each community including fishing activities (in several communities this included participation as well), processing activities, subsistence activities, mutual assistance, attendance at religious services, recreational activities, and attendance and participation at local government meetings. Observation, including listening, was particularly important in identifying sociocultural values present in each community. It should be remarked that the comments on sociocultural values in each community are heavily qualified by the short-term period of fieldwork available.

### 1.3 REPORT ORGANIZATION

This report is organized to discuss the study area in general and also to pay particular attention to individual communities. The general approach is to discuss the region in terms of the seafood resources as depicted in the catch and effort statistics, and then to shift the emphasis to individual communities and their interrelationships. The shift is accomplished through the use of and by reference to ADF&G districts and statistical areas.

Following this introduction, Chapters 2 and 3 present information on the fishery resources. Chapter 2 presents catch and effort information in the study area from 1975 to 1980. The trends in gear usage as well as the relative importance of individual gear types are reviewed. Chapter 3

shifts the discussion to the district and statistical area level. A statistical area specific discussion of the most important salmon resources is followed by an inventory of vessels and gear types used in each community. Chapter 3 concludes with an analysis of catch per unit effort by gear type in selected Alaska Peninsula districts and statistical areas. Districts and statistical areas were chosen for their importance to total landings and for their importance to fishermen from communities in close proximity to the fishing grounds.

Chapter 4 contains detailed information on the socioeconomic and sociocultural organization of each of the six communities. First socioeconomic information is presented. Participation in fishing and fish processing activities by people from the community is reviewed. Other forms of economic activity including subsistence are then surveyed. Other community-specific factors are reviewed and analyzed, including social organization, political organization and cultural values. After these community-by-community surveys there is an analysis of community linkages and overall trends in Chapter 5.

## CHAPTER 2

### SALMON FISHERIES OF THE STUDY AREA

The salmon fisheries of the study area fall within the Alaska Peninsula management area and the southeastern portion of the Bristol Bay management area. The area covered extends from Cape Kupreanof, the eastern boundary of the Alaska Peninsula management area, westward around Unimak Island and then northeast to Cape Menshikof, the northeastern boundary of the Alaska Peninsula area. The discussion of the Bristol Bay area focuses on the Ugashik district but Bay-wide data are presented where needed. Since fishermen from the communities in the study area occasionally fish in the Egegik and Naknek-Kvichak districts, data on those districts are included in Appendix C.

The discussion below presents an overview of the salmon fisheries of each management area separately. Catch and effort statistics and ex-vessel value and price are discussed by species and gear type. Several data bases are slightly different from one area to another because management of the two areas is done by two distinct sets of Department of Fish and Game personnel who historically collected different data.

#### 2.1 ALASKA PENINSULA MANAGEMENT AREA

Commercial catches of salmon in this area grew steadily during the six years ending in 1980. In 1975 the total catch in the area described amounted to only 1,786 m.t. By 1980 this had grown to 30,758 m.t., representing more than a 16 fold increase over the 1975 catch. With the exception of 1977 each one of the years registered a higher harvest over the preceding year. The highest single year change in total harvest, however, was in 1979 when 29,054 m.t. were harvested compared to a catch of 16,260 m.t. the previous year. Individual major gear types all registered increased catches over this period although the relative importance of each has undergone considerable changes (see Table 2.1). A gear by gear account is given next and draws on the statistics contained in Tables 2.2 and 2.3 and Figures 2.1, 2.2 and 2.3.

The large growth in catch can be attributed directly to increased use of purse seine gear. In 1975 purse seines harvested 572 m.t. which accounted for 32% of the total catch. By 1980 purse seines brought in a total of 23,232 m.t. representing 76% of all commercial salmon caught in the area. The effort expended has also increased dramatically. In 1975

TABLE 2.1  
SUMMARY OF SALMON CATCH IN THE  
ALASKA PENINSULA MANAGEMENT AREA, 1975 - 1980  
(In Metric Tons)

Fishing <sup>1</sup> Gear	1975	1976	1977	1978	1979	1980
PS	572	5,987	3,771	12,057	21,943	23,232
DG	1,051	2,982	2,166	3,429	5,421	5,563
SG	163	505	552	774	1,690	1,963
Total	1,786	9,474	6,489	16,260	29,054	30,758

<sup>1</sup> PS = Purse Seine  
DG = Drift gillnet  
SG = Set gillnet

Source: Commercial Fisheries Entry Commission.

TABLE 2.2

## SALMON CATCH FOR THE ALASKA PENINSULA MANAGEMENT AREA (M.T.), 1975 - 1980

GEAR TYPE	S T A T I S T I C A L W E E K																			Total
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Purse Seine																				
1975			38	204	123			9	9		6	136	47							572
1976		11	74	243	348	61	18	210	515	1006	1814	1482	205							5,987
1977			55	113	175		90	92	266	562	969	910	519		20					3,771
1978			93	252	229	276	295	870	1495	1827	2665	3079	889	69	10	8				12,057
1979		158	306	1221	449	512	1386	1974	2542	4330	4759	3430	495	269	71	39	2			21,943
1980		24	14	4705	3539	648	752	755	1898	2497	3616	3658	1063		40	16	7			23,232
Drift Gillnet																				
1975			44	206	254	143	44	44	48	16	22	83	73	47	27					1,051
1976		2	272	533	666	274	398	243	194	154	65	76	61	37	6	*		1	*	2,982
1977			32	387	425	199	409	223	134	62	56	63	63	71	40	1		1		2,166
1978	13	38	244	730	501	623	289	167	144	102	134	166	175	84	15	4				3,429
1979	14	63	195	434	796	906	784	384	356	487	331	275	207	100	75	14				5,421
1980	1	10	19	1195	647	650	680	548	439	302	331	226	187	156	123	49				5,563
Set Gillnet																				
1975			2	9	24	42	10	18	14			3	8	10	23					163
1976		1	3	24	141	140	39	30	48	10	10	5	13	27	6	6	2			505
1977			8	30	62	52	130	38	82	31	13	28	12	23	37	4	1	1		552
1978	2	3	71	74	142	169	75	49	51	19	35	21	13	31	13	6	*			774
1979	3	14	73	128	205	223	264	223	110	110	61	61	53	75	67	20				1,690
1980		1	3	161	172	233	234	197	259	193	137	59	63	66	118	59	6	2		1,963

\* Less than .5 MT.

Source: Commercial Fisheries Entry Commission.

ECI

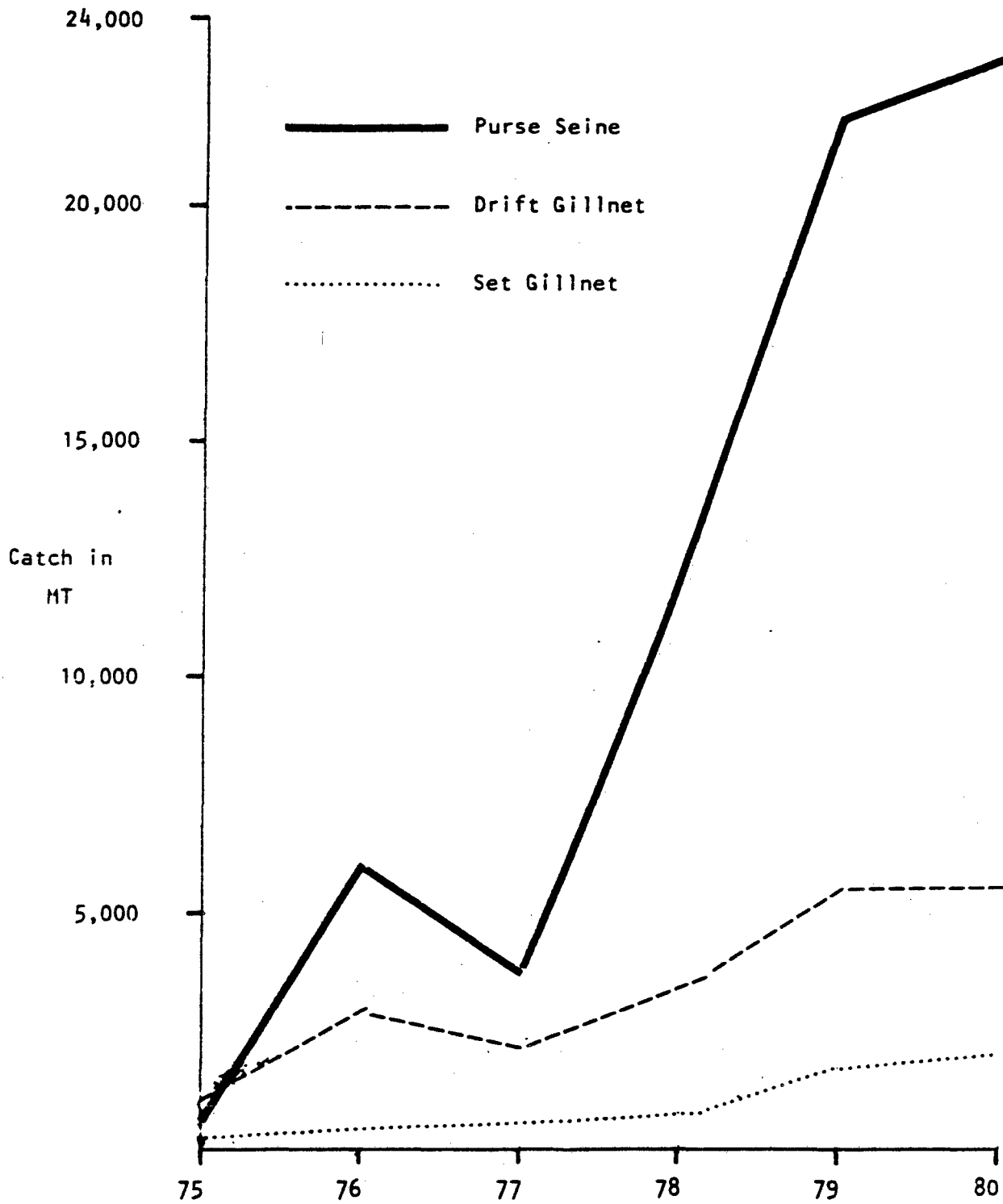
TABLE 2.3

SALMON FISHING EFFORT FOR THE ALASKA PENINSULA MANAGEMENT AREA (NO. OF LANDINGS), 1975 - 1980

GEAR TYPE	S T A F I S T I C A L W E E K												Total						
	22	23	24	25	26	27	28	29	30	31	32	33		34	35	36	37	38	39
<b>Purse Seine</b>																			
1975			23	49	34			11	16		5	50	19						207
1976	18	68	88	92	92	30	3	96	199	218	323	291	30						1,456
1977		32	49	42			43	63	115	274	347	239	120	11					1,335
1978		78	126	66	107	107	147	286	402	368	369	383	92	12	6	6			2,448
1979		86	113	222	130	171	557	702	875	850	750	666	222	136	20	17	2		5,519
1980		2	1	380	344	209	236	267	438	449	443	336	133	9	5	2			3,254
<b>Drift Gillnet</b>																			
1975		57	208	162	121	121	52	93	158	53	86	142	131	86	53				1,402
1976	14	302	421	411	253	218	218	188	161	141	126	100	93	71	19	2	4	1	2,525
1977		79	418	274	131	131	224	191	172	109	105	120	100	119	54	7		1	2,104
1978	23	57	438	695	296	355	242	188	168	180	130	112	167	121	39	5			3,216
1979	35	87	397	700	558	474	508	313	265	323	213	179	166	83	65	26			4,392
1980	15	44	59	789	490	498	515	518	468	227	355	263	182	209	100	49			4,781
<b>Set Gillnet</b>																			
1975			5	24	42	53	23	30	53			31	38	29	48				376
1976		6	24	80	150	176	72	69	61	32	36	21	41	56	18	13	5		860
1977			34	70	80	78	145	70	109	39	24	57	42	54	76	7	4	1	890
1978		7	8	119	133	141	164	120	94	44	39	49	35	56	36	12	1		1,138
1979		21	44	124	219	249	264	237	213	142	66	62	76	101	86	43			2,057
1980			5	28	246	251	274	277	192	131	120	66	49	83	147	90	8	1	2,218

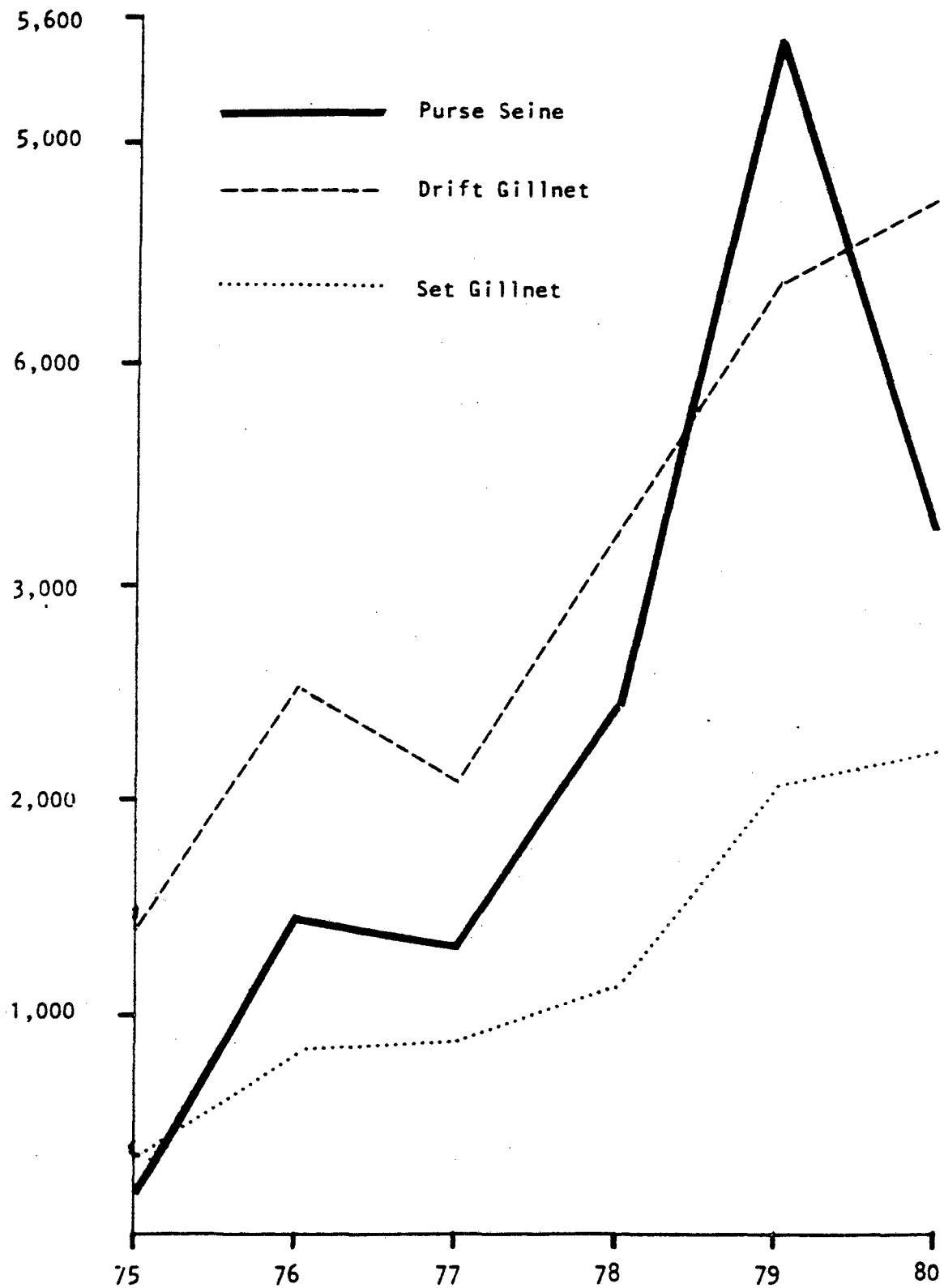
Source: Commercial Fisheries Entry Commission.

EC1



Salmon Catch by Gear Type in the Alaska Peninsula Management Area, 1975 - 1980

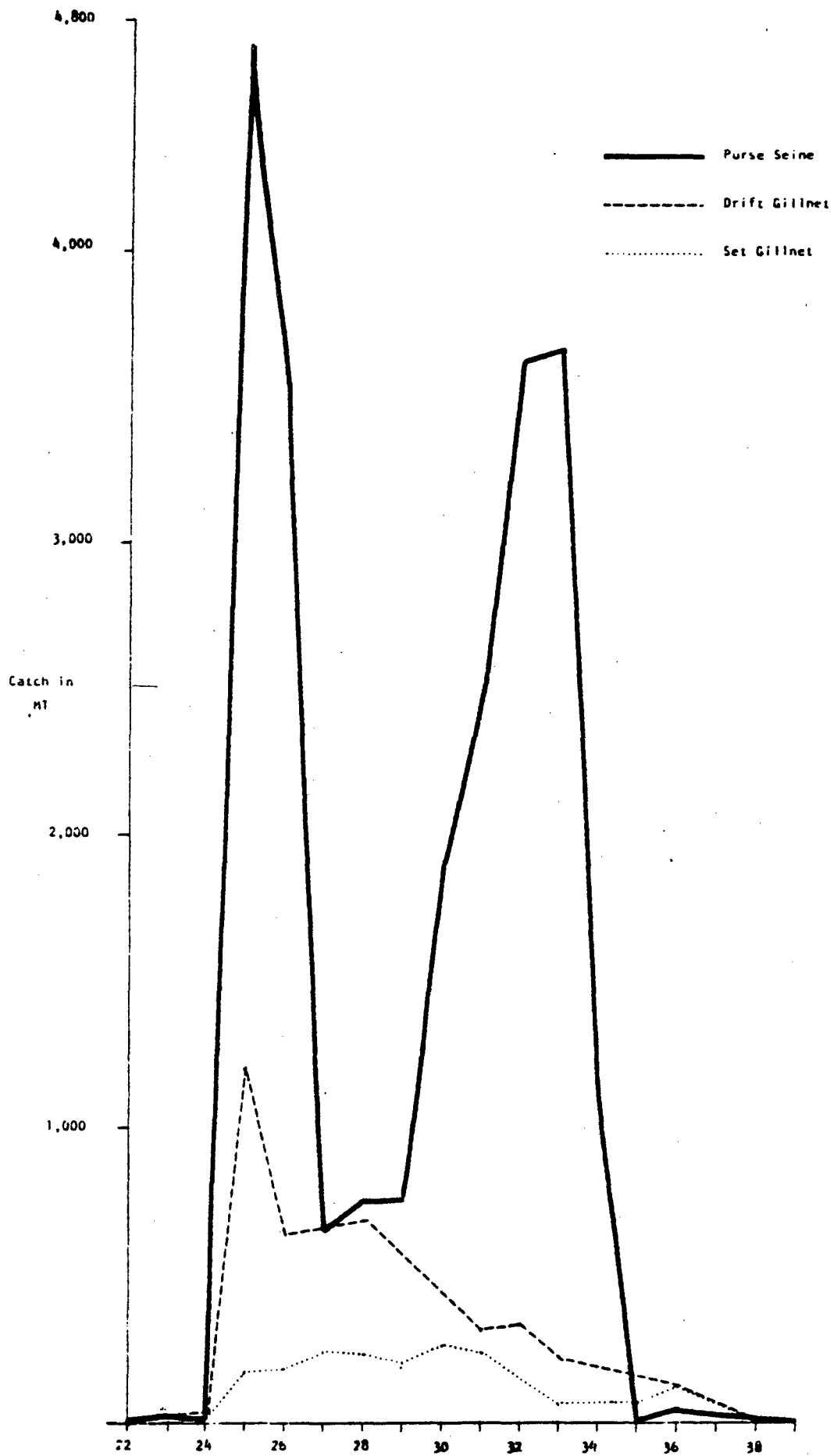
FIGURE 2.1



Number of Salmon Landings by Gear Type in the Alaska Peninsula Management Area, 1975 - 1980

FIGURE 2.2





Weekly Variation of 1980 Salmon Catch - by Gear Type in the Alaska Peninsula Management Area

FIGURE 2.3

there were 207 purse seine landings. This increased in 1976 to 1,446 but fell briefly to 1,335 landings in 1977. In 1978 and 1979 landings grew to a record 5,519 in the latter year. In 1980 the number of landings fell to 3,254 but without a corresponding drop in catch. In fact, the 1980 purse seine catch exceeded that of 1979 by over 1,000 m.t. Still, the 1980 effort level is almost 16 times as great as that expended in 1975. Since the purse seine catch itself has grown to 40 times as high as in 1975, the conclusion is that catch per unit effort (CPUE) has grown by a factor of 2.5. This conclusion, however, needs to be properly qualified in light of changes in net sizes and configurations in order to isolate that change in CPUE that is solely due to resource abundance.

The majority of purse seine catches are usually registered during the first three weeks in August (usually statistical weeks 31-33). The only exceptions were in 1975 and 1980 when the highest weekly catches were recorded in June during statistical week 25. Fishing, however, extends from early June through part of September, depending on the geographic area and current regulations.

Drift gillnet catches increased five-fold over the six year period ending in 1980. The relative contribution of this gear to total catch, however, dropped from 59% in 1975 to under 20% in 1980. In the former year a catch of 1,051 m.t. was registered, and though much lower than the 1980 catch of 5,563 m.t., was the highest catch of any single salmon harvesting gear in the area. This leadership role was lost the following year (1976) and is unlikely to be regained as long as purse seines continue to operate in those areas where they are now legal.

The highest weekly drift gillnet catches generally occur during late June to very early July. The third and fourth weeks in June together with the first week in July usually register the highest single week catches. This is different from the purse seine performance where in most years the highest catches come some six weeks later in the year.

Of the three gears considered during the period 1975-1980, set gillnets have always accounted for the lowest salmon harvest. In 1975 set gillnet catches in the area under discussion were recorded at only 163 m.t. This was 9% of the total catch then. Steady growth in total set gillnet harvest has been observed throughout the late 1970's and culminated in a high catch of 1,963 m.t. in 1980. Although this was twelve times as high as the 1975 catch, the contribution to total harvest had fallen from 9% to 6%. Catch statistics show that the highest weekly catches are usually during either the last

week in June or the first week in July. The activity tapers off thereafter although there usually is recovery six to seven weeks later in August for one or two weeks before the fishery trickles to trace catches towards the end of its season.

The total value of the Alaska Peninsula salmon fishery increased dramatically from 1975 to 1979 due to increases in poundage landed and to the price paid per pound. There was also a notable shift in the distribution of value by gear type during the period. Tables 2.4, 2.5, and 2.6 present information on value by species and gear type and price for the Alaska Peninsula management area which are discussed below.

Total value of the Alaska Peninsula salmon increased from \$1,684,000 in 1975 to \$35,555,000 in 1979. Value increased over 21 times from 1975 to 1979 while catch increased just over 16 times. Red salmon and pink salmon contributed an average of 78.9% of the total value of the Alaska Peninsula salmon fishery over the period. As indicated in Table 2.4, red salmon became the dominant species in terms of overall value contributed in 1977, a spot it has not retreated from since that time. Table 2.5 displays the change in average price per pound by species and gear type. As the table indicates, all species have increased in average value with red salmon more than doubling in value for all gear types. It should be noted that although prices are not available for the 1980 season, they did drop significantly for red salmon from their 1979 level, largely due to excess fish remaining on the market from 1979. It is noteworthy that the purse seine price of pink salmon rose only 27% over the period while the purse seine price for reds rose by 132%. Consequently, increase in price played a far greater role in the growth in the contribution of red salmon to total value than it did for pink salmon.

Over the entire period, purse seines took 48% of total value, drift gillnets 42.6% and set gillnets 9.4%. As Table 2.6 displays, purse seines became increasingly dominant in the last two years of the period, a trend which continued in 1980 and 1981. Although purse seines surpassed drift gillnets in total landings in 1976 and steadily increased their percentage of the total harvest, their share of total value did not surpass that of the drift gillnetters in 1977 due to drift gillnetters' much larger percentage of the red catch. Further discussion of this point is provided in the statistical area comparison section in Chapter 3.

TABLE 2.4

## ALASKA PENINSULA TOTAL EX-VESSEL VALUE BY SPECIES

1975-1979

Year	Thousands of Dollars (percentage of total value in brackets)					TOTAL
	KING	RED	SILVER	PINK	DOG	
1975	17 (1)	1,286 (76)	99 (6)	70 (4)	212 (13)	1,684
1976	63 (1)	2,163 (33)	143 (2)	2,782 (42)	1,408 (22)	6,559
1977	63 (1)	3,339 (57)	197 (3)	1,140 (19)	1,162 (20)	5,900
1978	275 (2)	6,595 (40)	631 (4)	6,400 (38)	2,590 (16)	16,491
1979	516 (1)	20,660 (58)	3,544 (10)	9,020 (25)	1,815 (6)	35,555

TABLE 2.5

ALASKA PENINSULA ESTIMATED AVERAGE PRICE PER POUND  
BY SPECIES AND GEAR TYPE, 1975 - 1979

Gear Type	Year	Species				
		KING	RED	SILVER	PINK	DOG
PURSE SEINE	1975	.50	.47	.42	.30	.25
	1976	.49	.52	.47	.27	.26
	1977	.75	.70	.61	.20	.40
	1978	.92	.80	.72	.31	.47
	1979	1.09	1.09	.76	.38	.51
DRIFT AND SET GILLNET	1975	.50	.47	.42	.30	.25
	1976	.53	.34	.47	.27	.34
	1977	.85	.63	.61	.33	.40
	1978	.78	.76	.74	.38	.49
	1979	1.17	1.17	1.02	.41	.63

Source: Commercial Fisheries Entry Commission

TABLE 2.6

TOTAL ALASKA PENINSULA SALMON  
EX-VESSEL VALUE BY GEAR TYPE  
1975 - 1979

Year	Thousands of Dollars (percentage of total value in brackets)			
	Purse Seine	Drift Gillnet	Set Gillnet	Total
1975	508 (30)	1,017 (60)	159 (10)	1,684
1976	3,735 (57)	2,264 (35)	560 (8)	6,559
1977	2,483 (42)	2,757 (47)	660 (11)	5,900
1978	9,795 (59)	5,496 (33)	1,200 (8)	16,491
1979	18,325 (52)	13,557 (38)	3,673 (10)	35,555

## 2.2 BRISTOL BAY MANAGEMENT AREA

The Bristol Bay management area has seen the largest salmon fishery in Alaska in recent years in terms of total salmon catch, total units of gear, and value of catch. Tables 2.7, 2.8, 2.9, 2.10 and 2.11 present summary information discussed in the text below.

Total catch has grown from 5.3 million fish in 1975 to 28.2 million fish in 1980 (see Table 2.7). The most important species in Bristol Bay in poundage is the red salmon. The 1980 red salmon harvest of 23.7 million fish, comprising 84% of the total catch, was the fifth largest ever recorded. The red salmon return of 62.4 million fish was the largest ever recorded, and total red catch would have easily surpassed the previous high of 24.7 million fish recorded in 1938 had it not been for the strike over price which prevented significant harvesting from occurring prior to July 3.

The other four species also increased from previous lows in the 1972-74 period to surpass previously recorded highest catch levels. However, different species reached their peak in different years. For king salmon, the highest recorded harvest of 4.6 million fish occurred in 1978; for dogs, the record harvest of 1.6 million fish occurred in 1977; for pinks, the record harvest of 4.6 million fish occurred in 1978; and for silvers, the record harvest of 335,000 fish occurred in 1980.

Total fishing effort as defined by number of fishing units is presented in Table 2.8. Effort as measured by landing in the Alaska Peninsula management area is not available for Bristol Bay due to the size and intensity of the fishery. Consequently the even highly qualified CPUE figures available for Alaska Peninsula fisheries are not possible for Bristol Bay. Despite the State of Alaska's limited entry program, total fishing effort increased from 1975 to 1980 with the total number of units growing from 2,176 in 1976 to 2,775 in 1980. This represents a 28% increase with the largest proportion of it occurring from 1977 to 1978 when an increase of 339 units was recorded, a 15% increase in effort in 1978 over that of 1977.

Only drift gillnet and set gillnet gear types are allowed to commercially harvest salmon in Bristol Bay. Both gear types increased in number from 1975 to 1980 although, as Table 2.8 shows, they exhibited different patterns of growth with set gillnet gear growing every year from 1975 to 1980 while drift gillnet dropped in 1976 from its 1975 level but then grew steadily through 1980. The largest annual increases for

TABLE 2.7

SUMMARY OF SALMON CATCH IN BRISTOL BAY  
BY SPECIES AND GEAR TYPE, 1975 - 1980<sup>1</sup>

Year	Gear Type	Number of Fish (1,000)					Total
		Red	King	Dog	Pink	Silver	
1975	Drift	4,458 (91)	29 (96)	305 (94)	-	37 (80)	4,830 (91)
	Set	441 (9)	1 (4)	20 (6)	-	9 (20)	471 (9)
	TOTAL	4,899	30	325		46	5,301
1976	Drift	5,073 (90)	90 (94)	1,282 (96)	927 (89)	17 (63)	7,388 (91)
	Set	546 (10)	6 (6)	47 (4)	110 (11)	10 (37)	720 (9)
	TOTAL	5,619	96	1,329	1,037	27	8,108
1977	Drift	4,328 (89)	126 (96)	1,527 (96)	-	89 (83)	6,074 (90)
	Set	550 (11)	5 (4)	71 (4)	-	18 (17)	644 (10)
	TOTAL	4,878	131	1,598		107	6,718
1978	Drift	8,711 (88)	185 (97)	1,097 (95)	4,584 (89)	72 (76)	14,648 (89)
	Set	1,217 (12)	7 (3)	61 (5)	567 (11)	23 (24)	1,877 (11)
	TOTAL	9,929	192	1,158	5,153	95	16,525
1979	TOTAL	21,958	202	930	2	300	23,393
1980	TOTAL	23,674	96	1,405	2,650	335	28,160

<sup>1</sup> No gear type catch breakout available for 1979 and 1980.

Source: ADF&G 1980b

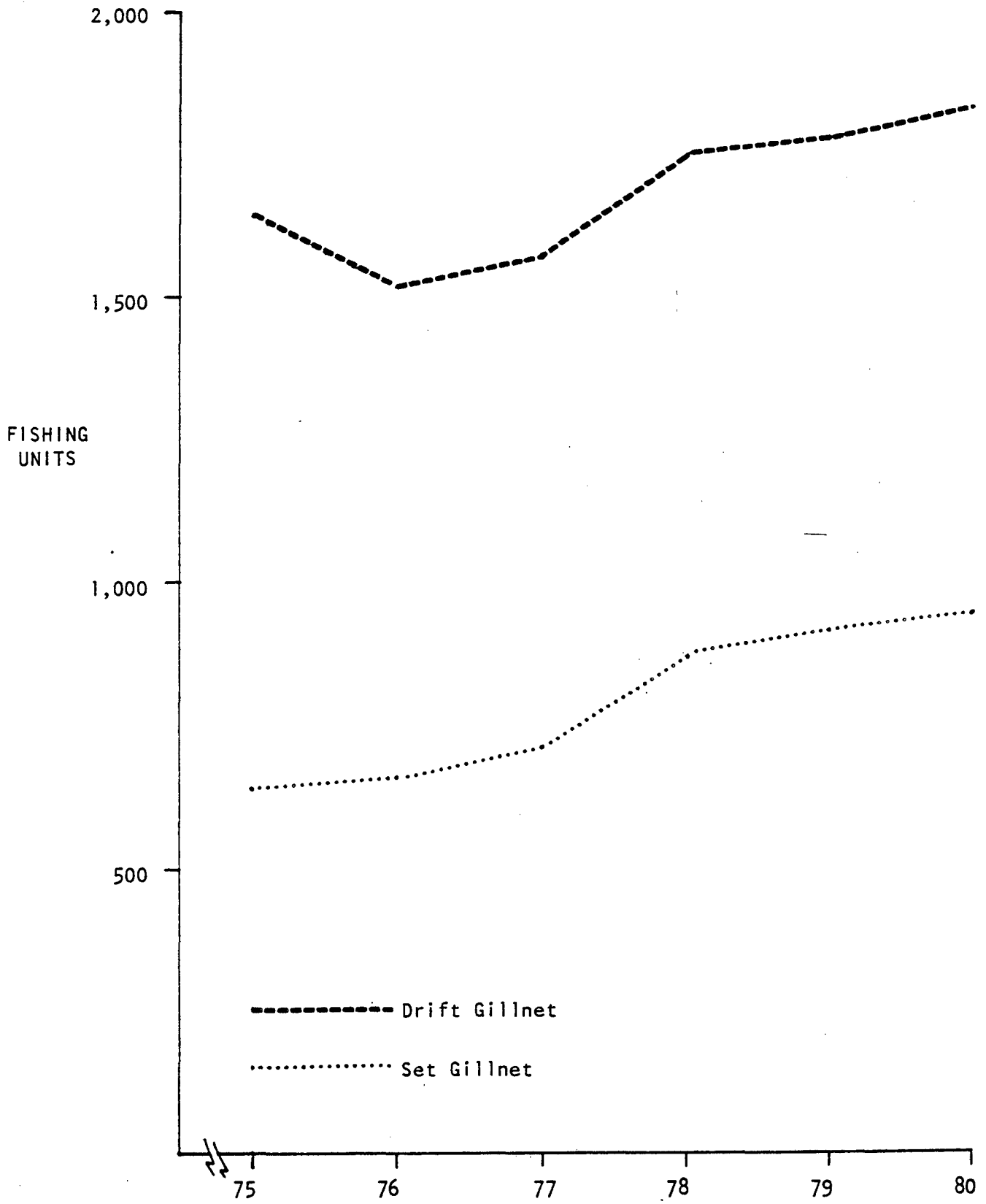


TABLE 2.8

TOTAL BRISTOL BAY FISHING UNITS  
BY GEAR TYPE, 1975 - 1980

Year	Gear Type (percentage figure in brackets)		Total
	Drift	Set	
1975	1,633 (72)	638 (28)	2,271
1976	1,517 (70)	659 (30)	2,176
1977	1,568 (69)	711 (31)	2,279
1978	1,747 (67)	871 (33)	2,618
1979	1,779 (66)	912 (34)	2,691
1980	1,827 (66)	948 (34)	2,775

Source: ADF&G 1980b



BRISTOL BAY FISHING UNITS BY GEAR TYPE  
1975 - 1980

FIGURE 2.4

TABLE 2.9

## BRISTOL BAY VESSEL LENGTH, 1975 - 1980

Year	Vessel Length (percentage figures in brackets)			Total
	to 25 ft.	26-29 ft.	30-32 ft.	
1975	455 (28)	243 (15)	944 (57)	1,642
1976	489 (29)	254 (15)	926 (56)	1,669
1977	517 (30)	286 (17)	925 (53)	1,728
1978	561 (30)	351 (19)	952 (51)	1,864
1979	717 (31)	419 (18)	1,199 (51)	7,335
1980	741 (28)	459 (17)	1,493 (55)	2,693

Source: ADF&amp;G 1980b

TABLE 2.10

BRISTOL BAY  
TOTAL EX-VESSEL VALUE TO FISHERMEN BY SPECIES,  
1975 - 1980

Year	Thousands of Dollars (Percentage of total shown in brackets)						Total
	King	Red	Silver	Pink	Dog		
1975	214 (2)	11,047 (92)	151 (1)	-	615 (5)		12,027
1976	742 (3)	17,139 (78)	82 (.004)	1,093 (5)	2,892 (13)		21,948
1977	1,943 (7)	10,446 (75)	445 (2)	5 (0)	4,258 (16)		26,097
1978	3,206 (6)	40,034 (77)	435 (1)	5,424 (10)	3,173 (6)		52,272
1979	4,303 (3)	132,116 (93)	2,454 (2)	3 (0)	2,586 (2)		141,462
1980	1,884 (2)	75,837 (90)	1,337 (2)	2,246 (3)	2,957 (4)		84,261

Source: ADF&G 1980b

TABLE 2.11

BRISTOL BAY  
ESTIMATED AVERAGE PRICE PER POUND BY SPECIES,  
1975 - 1980

Year	King	Red	Silver	Pink	Dog
1975 <sup>1</sup>	.35	.402	.37	.226	.228
1976	.454	.502	.405	.3092	.32
1977	.45	.595	.5325	.3392	.369
1978	.70	.68	.62	.33	.38
1979	1.00	1.025	1.05	.33	.41
1980	1.00	.57	.57	.25	.34

<sup>1</sup> Figures for 1975-1977 are weighted averages, with AIFMA prices counting for 60% and WACMA prices counting for 40% of the final derived figure.

Source: ADF&G 1980b

both gear types occurred in 1978 with drift gillnets increasing by 179 units (or 11.4%) over the previous year and set gillnets increasing by 160 units (or 23%) over the previous year. Overall growth in drift gillnet gear showed an increase of 194 units (or 12%) from 1,633 in 1975 to 1,827 in 1980. Overall growth in set gillnet gear showed an increase of 310 units (or 49%) from 638 in 1975 to 948 in 1980. This difference in rates of growth between the two gear types is in part due to the fact that the limited entry commission was very lenient in awarding set gillnet permits in 1975. As the fishery has become more lucrative, many of those permits which sat idle in lean years have been activated.

In addition to numbers of units fishing, there are several other indices which display the increase in fishing effort in Bristol Bay from 1975 to 1980. One of these is the proportion of fishing vessels registered (Table 2.9) to the number of units fishing (Table 2.8). This is a meaningful ratio because set gillnet gear can be operated without a vessel, but it is less effective to do so. Drift gillnet gear, of course, requires a vessel. Consequently, an increase in the proportion of fishing vessels to units of gear means that more set gillnet units are acquiring vessels. In 1975 72% of units fishing had vessels while by 1980 the percentage had increased to 97%. The most dramatic increases occurred between 1978 and 1979 when a 23% increase occurred from 71% in 1978 to 87% in 1979 and between 1979 and 1980 when an additional 11% increase occurred from 87% to 97%.

A second indice of increasing effort in the Bristol Bay fishery is the average length, hold capacity, and horsepower of the drift gillnet vessels. Table 2.9 summarizes the relative proportions of vessels of different lengths in the fishery. When examining this table, it is important to keep in mind that vessels used in the set gillnet fishery are typically skiffs under 25 feet in length. Consequently, the substantial increase in the number of these vessels would mean that the relative proportion of larger vessels would decline. It is noteworthy then that the two dramatic surges of additional vessels which occurred from 1978 to 1979 and 1979 to 1980 did not reduce the proportion of vessels in the 30-32 foot class. In fact, there was a significant increase in the number of 30-32 foot vessels from 1979 to 1980 (nearly a 25% increase) which more than offset the additional small set gillnet vessels added to the fishery. This latter assertion is supported by the fact that the proportion of 30-32 foot vessels in the fishery rose from 51% in 1978 and 1979 to 55% in 1980. Although no comparable hard data are available on hold capacity and horsepower, Baker and Muse (1979) reported on the basis of their 1977 Bristol Bay survey, that average vessel horsepower had increased about 10% from 1972. It is

clear that even greater increases in average horsepower and hold capacity accompanied the increased average vessel length with the major upgrading of the fleet that took place between 1979 and 1980.

One final indicator of increased effort in the Bristol Bay Fishery is the amount of labor involved in the harvesting sector. An overall increase in labor can be inferred merely from the increase in total fishing units from 2,176 in 1976 to 2,775 in 1980 reported in Table 2.8. In addition to this, however, is the fact that drift gillnet units are using more average persons per unit of gear now than they were in 1975 (Larson 1980). Thus, not only are more units of gear in operation but each drift unit is using more labor than it was previously. It is unclear if a similar pattern holds for the set gillnet fishery.

The value of the Bristol Bay salmon fishery presents a more complicated picture than found in the landings. Table 2.10 displays the total value of Bristol Bay salmon by species from 1975 to 1980 and Table 2.11 presents the estimated Bristol Bay-wide average price per pound by species from 1975 to 1980. As can be seen in Table 2.10, total value increased from \$12,027,000 to \$141,462,000 in 1979 before falling back to \$84,261,000 in 1980. The value increased nearly 12 times from 1975 to 1979 while catch increased only a little over five times. Value from red salmon increased from \$11,047,000 in 1975 to \$132,111,000 in 1980, a 12-fold increase, while total red salmon catch increased five and one-half times from a low of 4.3 million fish in 1977 to a high of 23.7 million fish in 1980.

As shown in Table 2.11, all species increased in price per pound from 1975 to 1979 with silver, king, and red salmon showing the largest increases. Likewise all species, with the exception of king salmon, showed declines in 1980. The 1980 red salmon price of \$.57 was almost 50% lower than the 1979 price and is primarily responsible for decline in total exvessel earnings from \$141.5 million in 1979 to \$84.3 million in 1980. Depressed market conditions due to the large amounts of high priced salmon held over from 1979 contributed both to the lower price and the strike which kept the 1980 harvest well below what it could have been.

There is no price differential between drift gillnet and set gillnet caught fish in Bristol Bay. There is, however, some difference in the relative success of each gear type in catching different salmon species. As Table 2.7 displays, drift gillnets predominate in the harvest of all species, but set gillnets are comparatively better at harvesting silver salmon than they are at harvesting king and dog salmon.

One of the reasons for the significant increase in the value of the salmon fisheries in these two areas is the changes in the proportion of fish processed by different methods that have occurred. Table 2.12 summarizes information on the proportion of Bristol Bay salmon processed in different ways. As can be seen, the percentages of higher quality, higher priced frozen and fresh export fish have increased dramatically. In 1979, the per pound price differential between canned and fresh/frozen reds was \$.30 ; \$1.00 for fresh/frozen, and \$.70 for canned. From a combined total of 5% in 1975, fresh/frozen climbed to 50% of total catch in 1979 before falling off slightly to 47% in 1980. The most significant jump occurred in 1979. It should be noted that the brine export category refers to fish taken out of Bristol Bay for canning in other areas such as the Alaska Peninsula, Chignik, and Kodiak. The increasing percentage of brine export fish is a result of the large run size of recent years, but may also be a result of firms without canneries in Bristol Bay purchasing a larger share of the catch than firms with canneries located in Bristol Bay.



TABLE 2.12

TOTAL POUNDS OF BRISTOL BAY SALMON BY TYPE OF PROCESSING,  
1975 - 1980

Year	Thousands of Pounds of Salmon Processed (percentage of total shown in brackets)				Total
	Canned	Frozen/Cured	Fresh Export	Brine Export	
1975	23,097 (78)	942 (3)	585 (2)	5,136 (17)	29,760
1976	40,518 (84)	1,955 (4)	1,275 (3)	4,466 (9)	48,214
1977	35,167 (79)	2,317 (5)	3,518 (8)	3,603 (8)	44,605
1978	62,218 (67)	11,445 (12)	9,991 (11)	9,304 (10)	92,958
1979	54,245 (37)	46,713 (32)	26,605 (18)	17,557 (12)	145,120
1980	49,383 (34)	42,860 (29)	26,225 (18)	27,780 (19)	146,246

## CHAPTER 3

### SUBREGIONAL SALMON HARVEST CHARACTERISTICS

This chapter is divided into three sections. The first section looks at statistical areas to identify important locations of harvest by species, gear type, and community. The second inventories vessel and gear organization by community and the third analyzes comparative catch per unit effort information by gear type for selected areas.

#### 3.1 STATISTICAL AREA SPECIFIC SALMON FISHERY PATTERNS

Important aspects of the salmon fisheries in the study area include statistical area specific harvest patterns and timing of the predominant species runs. While all five of the Pacific salmon common to North America are caught in this region, pink and red salmon are the most significant resources in terms of tonnage and total value to the local communities. Pink and reds are nearly equal in the Alaska Peninsula management area while the reds are the overwhelmingly predominant species in Bristol Bay. In this section an area specific discussion of these major species is presented. Detailed data on catch by statistical area, week, species, gear type, and year are presented in Appendices A, B, and C.

For the reader's convenience, Exhibits 2.1 and 2.2 showing the applicable ADF&G five-digit statistical areas and districts appear on the following two pages. Beginning with the areas on the southeast side of the Peninsula and following around into the Bristol Bay Management Area, the major salmon fisheries are discussed. In the statistical areas prefixed by 281 through 283, the predominant species caught is pink salmon. Areas 281-63 and 281-64 were the best producers consistently through the late 1970's but in 1980 the largest catches came from statistical areas 283-31 and 282-11. Purse seiners take the lion's share of the catch with the peak catch period occurring during statistical weeks 32 and 33 (second and third weeks of August).

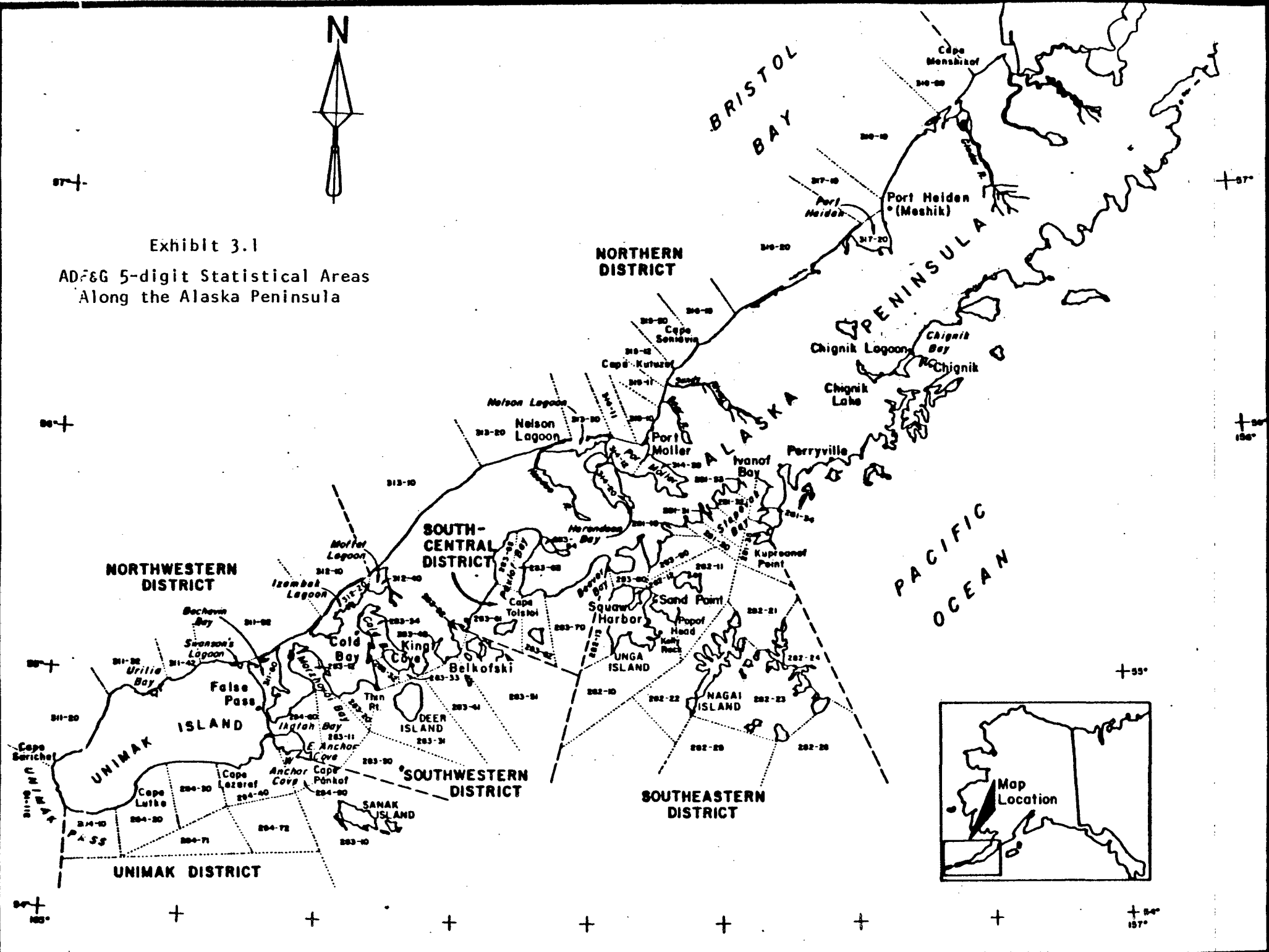
During weeks 24 through 26, statistical area 282-11 was the major producer of red salmon for purse seine gear in the Alaska Peninsula from 1975 to 1978.

The major proportion of the catch in these areas is taken by purse seine and beach seine fishermen from Sand Point and King Cove. King Cove fishermen are predominant in districts 283-11 east to district 283-63. Districts 283-62, 283-63,



Exhibit 3.1

ADF&G 5-digit Statistical Areas  
Along the Alaska Peninsula



30

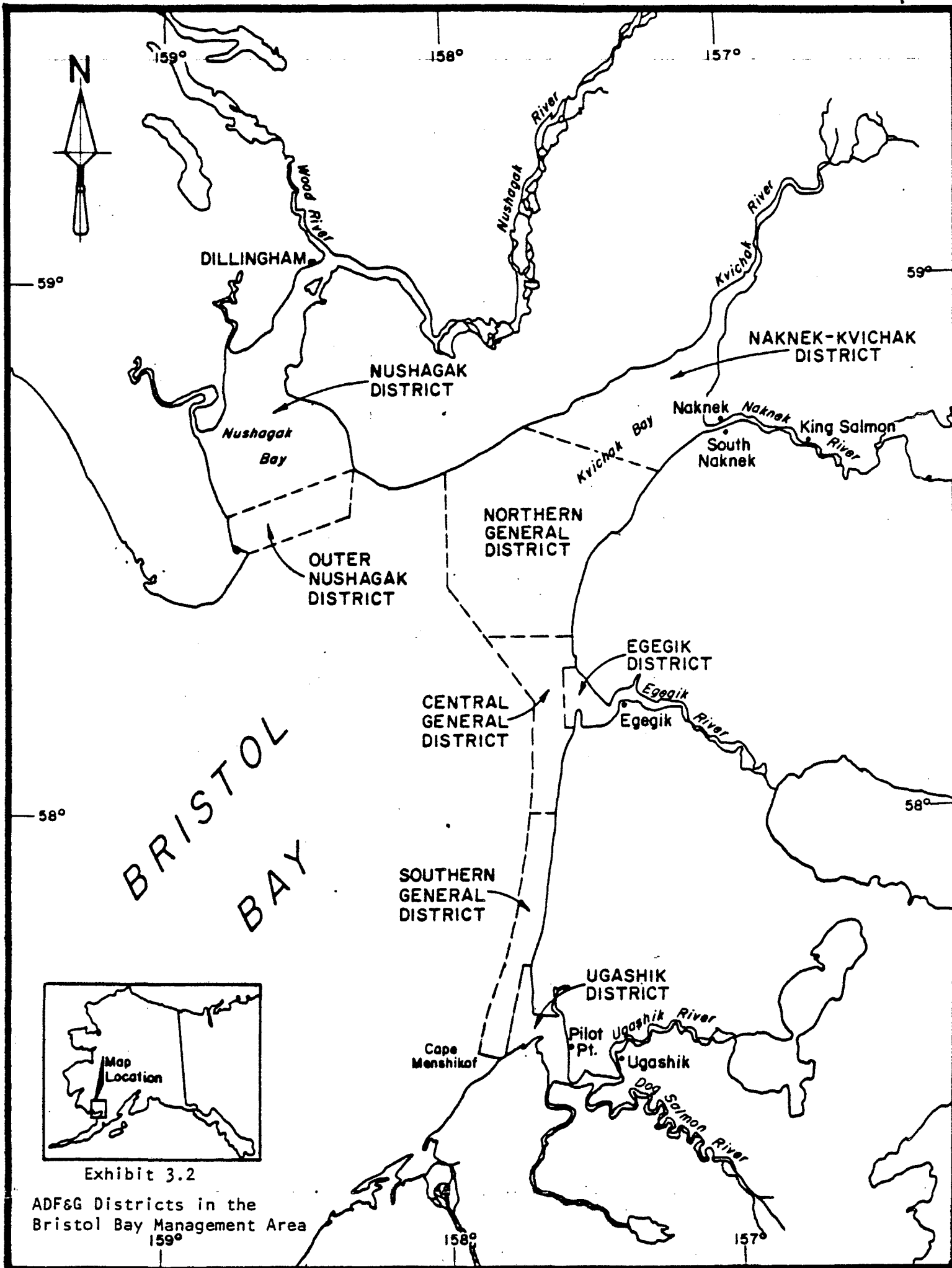


Exhibit 3.2

ADF&G Districts in the Bristol Bay Management Area

283-64, and 283-65 are generally an area of overlap where vessels from both communities are equally likely to be found. Sand Point vessels are predominant in districts 282 and 281.

The statistical areas prefixed by 284 comprise what is commonly referred to as the Unimak fishery. Reds are the predominant species. Area 284-60 was the best producer between 1975 and 1979 with drift gillnets taking the largest catches during statistical weeks 25 and 26 (last part of June). In 1979 and 1980, however, purse seiners increased their catch from area 284-20 at the same peak time to dominate the scene. The added effort came from the Sand Point purse seine fleet for whom the Unimak fishery is now the most valuable red fishery. Previously, the red fishery in area 282-11 was the most important red salmon fishery for the Sand Point seiners.

Fishermen from all the Alaska Peninsula communities have taken part in the Unimak fishery in recent years. Nelson Lagoon drift gillnet fishermen in the last two or three years have reduced their efforts in this area due to the strength of runs to their area. Sand Point purse seiners increased their efforts here in 1979 and 1980 due to regulations which have concentrated the June red fishery here rather than in the Shumagins. King Cove fishermen are roughly divided into equal components of drift and purse seine units in this area while False Pass fishermen use drift gillnet gear here.

Areas prefixed by 311 and 312 are primarily areas where red catch predominates. Area 312 includes the very productive dog salmon fisheries of Izembeck and Moffett Lagoon (areas 312-20 and 312-40, respectively). Very few pinks are caught except that in 1978 over 1.6 million pounds were caught in 311-52 by purse seiners. Area 311-52 was the best producing area in the late 1970's; however, in 1980 the largest catch was from 311-20. In all instances, purse seiners landed the largest portion of the catch. Peak catches occurred during weeks 29 through 31 (middle of July to early August).

The 311 area fishery is known locally as the Urilia Bay and Swanson's Lagoon fishery and is dominated by False Pass fishermen using beach seines with several occasional beach seine units from King Cove also participating. The same is true for area 312.

As we move northeast along the north side of the Peninsula, reds become the predominant species. Very few pinks are caught in these areas. Some other fisheries are relatively important, like the king and silver fisheries in Nelson Lagoon, but the major catches in areas prefixed by 313

and 314 are of red salmon. Area 313-30 is the major producing area and set gillnets are the primary producers followed by drift gillnets. Statistical weeks 25 through 28 (end of June through the middle of July) have the highest catches but good catches are posted by both gear types through the end of July (week 30).

Statistical area 313-30 is the Nelson Lagoon fishery which is utilized almost exclusively by residents of Nelson Lagoon using drift and set gillnet gear.

Red salmon are again the most important in areas prefixed by 315 and 316. Drift gillnets take most of the catch although about 200,000 pounds were caught by purse seiners in area 315-11 during week 27 of 1980. Area 315-11 generally is the most productive with consistently good catches throughout the period between weeks 26 and 35 (end of June through August). Peak catches are usually early in this period (weeks 27 and 28). This is the primary fishery for the Port Moller fleet.

The Port Moller area fishery is carried out almost exclusively by drift gillnet vessels. The fleet is composed of 50% non-area resident fishermen who come from other parts of Alaska and Washington and 50% of Alaska Peninsula resident fishermen drawn from all four communities in the Alaska Peninsula portion of the study area.

Areas 317 and 318 produce mainly reds. Set gillnets produced the largest catches in 1979 and 1980. Area 317-20 (Port Heiden) is more noteworthy for its early king run and late silver run than it is for the red salmon which are strictly pass-through fish headed for various systems further north in Bristol Bay. Area 318-20 includes the important late fall Cinder River fishery. Early years (1975-1978) saw relatively little production in these statistical areas. Statistical weeks 26 to 29 (end of June through the third week of July) is the peak production period. Port Heiden fishermen participate overwhelmingly in these fisheries using set gillnets and drift gillnets. Set gillnets are used for red salmon while drift gear takes the largest proportion of the king and silver catch. Pilot Point fishermen, using drift gillnets, are the primary participants in area 318-20.

In the Bristol Bay management area, five-digit statistical areas are not used. Rather, the area is divided into a number of districts. The districts which fishermen from Port Heiden, Pilot Point, and Ugashik have used are Naknek-Kvichak, Egegik, and Ugashik districts (see Exhibit 2.2) but overwhelmingly they have concentrated their efforts

in the Ugashik district. This discussion focuses on the Ugashik district although catch statistics are presented for all three districts in Appendix C. It should be noted that in 1979 and 1980 an additional district, termed the general district and subdivided into northern, central, and southern, was created by management personnel in order to allow for earlier harvesting of the enormous runs and provide for more orderly processing of the catch (see Exhibit 3.2). This did not change the pattern of reporting of catch statistics as catches made in the general districts were assigned to either the Naknek-Kvichak, Egegik, or Ugashik district, depending on the location of the general district harvest.

Salmon caught in the Ugashik district comprise only a small fraction of the total Bristol Bay catch, ranging from 0.32% in 1975 to 3.53% in 1980. In this district, as elsewhere in Bristol Bay, reds are the major species. Peak catch normally occurs around statistical week 29 or between the middle and end of July. Drift gillnets take the majority of the run, although it is likely that set gillnets take a larger share than the Bristol Bay-wide average of 90% drift and 10% set, due to special provisions for set gillnetting on the Ugashik River (see section 4.6 for further discussion on this point).

Pilot Point, Ugashik, and Port Heiden residents make up the largest portion of the drift gillnet fleet; however, recent years with large catches have seen a significant influx of fishermen from the Egegik and Naknek-Kvichak districts during peak periods of the run. Set gillnetting has been primarily the domain of Pilot Point residents along with a few from Ugashik and Port Heiden.

### 3.2 VESSELS AND GEAR UTILIZATION

In this section information on number of vessels including age and gear characteristics is presented. This is done in the context of homeports and does not correspond to local ownership of vessels which is discussed in Chapter 4. Rather this information may indicate activity levels in the vicinity of selected communities.

#### Pilot Point and Ugashik

There were 35 fishing vessels with their home port in Pilot Point in 1979. Two of these vessels were one to ten years old. The rest were divided almost equally into three categories: those between 11 and 20 years (11 vessels), those between 21 and 30 years (12 vessels), and those at least 31 years old or of undetermined age.

All the vessels, except one for which length was not reported, were at most 40 ft. in length. The majority 15 vessels were between 21 and 30 ft. in length, while 7 vessels and 12 vessels were respectively 20 ft. or less and 31 ft. or more. Two types of fishing gear were used by these vessels as can be seen from Table 3.2. Twenty-two vessels reportedly carried drift gillnets only. Seven vessels used set gillnets while the remaining six vessels reported more than one gear type. This is in accordance with the gear regulations for the general area in which both Pilot Point and Ugashik fall.

#### Port Heiden

A total of 23 fishing vessels listed Port Heiden as their home port in 1979. Tabulation of vessel statistics by age and length group shows fairly uniform distribution. There were five boats of up to 10 years of age, four boats between 11 and 20 years old, five boats of between 21 and 30 years old and four which were of unknown age. Most of the vessels fell in the range from 21 ft. to 40 ft. There were 10 boats each in the length ranges 21'-30' ft. and 31'-40' ft. Two boats were 20 ft. or less and the length of one vessel was not reported. These statistics are contained in Tables 3.3 and 3.4.

The reported gear types included mostly the drift and set gillnets (Table 3.4). Twelve of the 23 boats carried drift gillnets. Set gillnets were used on seven boats while the remaining four boats reported having multiple gear, more than one type. It should be noted that salmon fishing regulations in the general vicinity of Port Heiden prescribe use of drift or set gillnet only.

#### Port Moller

Forty-five vessels reported Port Moller as their home port during 1979. Like Pilot Point and Port Heiden, Port Moller, the vessels rarely exceed 40 ft. in length. However, whereas the size distribution of boats with a home port in Pilot Point and Port Heiden is more uniform, the vessels in Port Moller tend to be larger on average. For example, as shown in Table 3.5, 27 of the 43 boats of up to 40 ft. in length were in the 31'-40' category. In addition two vessels were longer than 40 ft. As far as the age of the vessels is concerned most (18) tended to be in the mid-age range of between 16 and 25 years. Fourteen are ten years or newer with eight of these having been bought no more than seven years ago.

By far the most predominant type of gear carried is the drift gillnet. Of a total of 45 vessels homeported at Port



TABLE 3.1

NUMBER OF VESSELS WITH A HOME PORT IN PILOT POINT.  
BY VESSEL LENGTH AND BY AGE GROUP, 1979

Vessel Age Group (years)	VESSEL LENGTH									Total
	Less than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
1 - 5		1								1
6 - 10	1									1
11 - 15		1	1						1	3
16 - 20	4	1	3							8
21 - 25		2	7							9
26 - 30	2		1							3
Older Than 31		5								5
Unknown		5								5
Total	7	15	12						1	35

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

TABLE 3.2  
NUMBER OF VESSELS WITH A HOME PORT IN PILOT POINT  
BY VESSEL LENGTH AND BY GEAR TYPE, 1979

Gear Type	VESSEL LENGTH									Total
	Less Than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
Purse Seine										
Beach Seine										
Drift Gillnet		10	11						1	22
Set Gillnet	3	4								7
Hand Troll										
Longline										
Pot										
Multiple	4	1	1							6
Unknown										
<b>Total</b>	<b>7</b>	<b>15</b>	<b>12</b>						<b>1</b>	<b>35</b>

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

TABLE 3.3

NUMBER OF VESSELS WITH A HOME PORT IN PORT HEIDEN  
BY VESSEL LENGTH AND BY AGE GROUP, 1979

Vessel Age Group (years)	VESSEL LENGTH									Total
	Less than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
1 - 5		2	3							5
6 - 10										
11 - 15	1									1
16 - 20		1	2							3
21 - 25			4							4
26 - 30			1							1
Older Than 31		5								5
Unknown	1	2							1	4
Total	2	10	10						1	23

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

TABLE 3.4  
 NUMBER OF VESSELS WITH A HOME PORT IN PORT HEIDEN  
 BY VESSEL LENGTH AND BY GEAR TYPE, 1979

Gear Type	VESSEL LENGTH									Total
	Less Than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
Purse Seine										
Beach Seine										
Drift Gillnet		3	9							12
Set Gillnet	2	4							1	7
Hand Troll										
Longline										
Pot										
Multiple		3	1							4
Unknown										
<b>Total</b>	<b>2</b>	<b>10</b>	<b>10</b>						<b>1</b>	<b>23</b>

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

TABLE 3.5

NUMBER OF VESSELS WITH A HOME PORT IN PORT MOLLER  
BY VESSEL LENGTH AND BY AGE GROUP, 1979

Vessel Age Group (years)	VESSEL LENGTH									Total
	Less than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
1 - 5	3	3	2							8
6 - 10	4		2							6
11 - 15										
16 - 20			15							15
21 - 25	1		2							3
26 - 30			6							6
Older Than 31										
Unknown	5				1	1				7
Total	13	3	27		1	1				45

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

Moller in 1979, more than half carried exclusively drift gillnets. All of these vessels were in the larger size group of 31'-40'. Only seven boats used exclusively set gillnets. Gear carried by three vessels was not recorded while a residual 10 vessels used both gear types. Table 3.6 illustrates these statistics.

Gear regulations in the Port Moller area allow use of drift gillnets, set gillnets, purse seines, and beach seines. Of all the communities considered in this analysis, Port Moller is the only one on the north side of the Alaska Peninsula that falls in a regulatory area where purse seines may be used.

#### Nelson Lagoon

There were, in 1979, 36 fishing vessels with a reported home port of Nelson Lagoon. A great majority of these (21) were from one to five years old. Only two vessels were ported 26 years or older. No age was recorded for five of the vessels.

Tabulation of the vessel characteristics (See Tables 3.7 and 3.8) shows that no vessel of greater than 40' in length used Nelson Lagoon as a home port. This is very similar to the communities of Pilot Point and Port Heiden. As noted, only two vessels exceed this length in Port Moller. However, whereas vessels associated with Pilot Point and Port Heiden were usually uniformly distributed by length categories and whereas vessels in Port Moller were generally concentrated in the larger size group (31'-40'), more than 50% of the vessels in Nelson Lagoon were 20' long or less.

Gear utilization by vessels favored multiple gear use with 31 of the 36 vessels reporting more than one gear. The regulations in the Nelson Lagoon immediate area generally require use of drift or set gillnets only. These vessels, however, are in a position to leave the Lagoon for Port Moller or Herendeen Bay where the gear regulations allow purse seines and beach seines. The fact that the Nelson Lagoon vessels are generally small in size, however, would limit extensive use of limit purse seines by this fleet.

#### False Pass

In 1979 False Pass was a home port for 24 fishing vessels. This compares with 23 vessels reported for Port Heiden but is well below the figures for Pilot Point (35) Nelson Lagoon (36) and Port Moller (45). All vessels were 15 years or newer. In fact 22 of them were 10 years old or less.

TABLE 3.6

NUMBER OF VESSELS WITH A HOME PORT IN PORT MOLLER  
BY VESSEL LENGTH AND BY GEAR TYPE, 1979

Gear Type	VESSEL LENGTH									Total
	Less Than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
Purse Seine										
Beach Seine										
Drift Gillnet			25							25
Set Gillnet	7									7
Hand Troll										
Longline										
Pot										
Multiple	6	2	2							10
Unknown		1			1	1				3
Total	13	3	27		1	1				45

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

TABLE 3.7  
 NUMBER OF VESSELS WITH A HOME PORT IN NELSON LAGOON  
 BY VESSEL LENGTH AND BY AGE GROUP, 1979

Vessel Age Group (years)	VESSEL LENGTH									Total
	Less than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
1 - 5	13	3	5							21
6 - 10	3		2							5
11 - 15	1		2							3
16 - 20										
21 - 25										
26 - 30		2								2
Older Than 31										
Unknown	3	2								5
<b>Total</b>	<b>20</b>	<b>7</b>	<b>9</b>							<b>36</b>

Source: CFEC, 1979 Vessel License Listing by Owner-Name.



TABLE 3.8

NUMBER OF VESSELS WITH A HOME PORT IN NELSON LAGOON  
BY VESSEL LENGTH AND BY GEAR TYPE, 1979

Gear Type	VESSEL LENGTH									Total
	Less Than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
Purse Seine										
Beach Seine										
Drift Gillnet			1							1
Set Gillnet	2	1								3
Hand Troll										
Longline										
Pot										
Multiple	17	6	8							31
Unknown	1									1
<b>Total</b>	<b>20</b>	<b>7</b>	<b>9</b>							<b>36</b>

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

The only other community thus far discussed that is characterized by a relatively new fleet is Nelson Lagoon. With the exception of one vessel, all the False Pass fleet were 40' long or less. The majority (15 vessels) were of medium size (21'-30'). Tables 3.9 and 3.10 give details of fleet characteristics.

Gear regulations governing the False Pass area are similar to those in the Port Moller area. Only these two areas may be fished with drift gillnets, set gillnets, purse seines, and beach seines. Although the two seine gear types and the set nets are allowed on the southside (statistical areas 281-283), drift gillnets may not be used in these areas.

#### King Cove

King Cove served as a home port to 74 fishing vessels in 1979. Of the communities examined in this study only Sand Point served more vessels than King Cove that year. The King Cove fleet contained a fair number of new vessels. A total of 31 vessels were less than five years old. Furthermore, as is displayed in Table 3.11, as many as 55 of the 74 vessels reporting King Cove as their home port were no more than 15 years old.

The size distribution shows that the majority of the vessels fell into the category of 40' or less. As many as 21 vessels were recorded at 20' or less while 17 and 26 vessels were respectively placed in the 21'-30' and 31'-40' length groups. Only nine boats were reported as being longer than 40' and six of these did not exceed 50' in length. Length was not reported for one of the boats.

More than half of the fleet (42 vessels) reported carrying multiple gear (See table 3.12). Purse seine gear alone was reported for 17 vessels while another seven vessels reported beach seines as the only gear. Three boats reported drift gillnet only. Only one boat (of less than 20') reported set gillnets as the only gear carried.

The salmon gear regulations for statistical areas in the vicinity of King Cove allow use of a variety of gear. These include purse seines, beach seines and set gillnets.

#### Sand Point

Sand Point is home port to more fishing vessels than any of the other communities discussed in this report. In 1979 a total of 172 vessels reported Sand Point as their home port.

TABLE 3.9  
 NUMBER OF VESSELS WITH A HOME PORT IN FALSE PASS  
 BY VESSEL LENGTH AND BY AGE GROUP, 1979

Vessel Age Group (years)	VESSEL LENGTH									Total
	Less than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
1 - 5	2	5	3	1						11
6 - 10		9	2							11
11 - 15		1	1							2
16 - 20										
21 - 25										
26 - 30										
Older Than 31										
Unknown										
<b>Total</b>	<b>2</b>	<b>15</b>	<b>6</b>	<b>1</b>						<b>24</b>

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

TABLE 3.10

NUMBER OF VESSELS WITH A HOME PORT IN FALSE PASS  
BY VESSEL LENGTH AND BY GEAR TYPE, 1979

Gear Type	VESSEL LENGTH									Total
	Less Than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
Purse Seine		6								6
Beach Seine	1									1
Drift Gillnet		7	3							10
Set Gillnet	1	1								2
Hand Troll										
Longline										
Pot										
Multiple		1	3	1						5
Unknown										
Total	2	15	6	1						24

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

TABLE 3.11  
NUMBER OF VESSELS WITH A HOME PORT IN KING COVE  
BY VESSEL LENGTH AND BY GEAR TYPE, 1979

Gear Type	VESSEL LENGTH									Total
	Less Than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
Purse Seine	8	6	3							17
Beach Seine	5	2								7
Drift Gillnet			3							3
Set Gillnet	1									1
Hand Troll										
Longline		1								1
Pot								1		1
Multiple	5	8	20	6	1	1			1	42
Unknown	2									2
<b>Total</b>	<b>21</b>	<b>17</b>	<b>26</b>	<b>6</b>	<b>1</b>	<b>1</b>		<b>1</b>	<b>1</b>	<b>74</b>

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

TABLE 3.12

NUMBER OF VESSELS WITH A HOME PORT IN KING COVE  
BY VESSEL LENGTH AND BY AGE GROUP, 1979

Vessel Age Group (years)	VESSEL LENGTH									Total
	Less than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
1 - 5	11	7	9	3					1	31
6 - 10	4	3	9		1					17
11 - 15	1	4		1				1		7
16 - 20		1	4							5
21 - 25	1		2							3
26 - 30			1							1
Older Than 31				2		1				3
Unknown	4	2	1							7
Total	21	17	26	6	1	1		1	1	74

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

This was more than twice the number reported for King Cove, h second to Sand Point. Most of Sand Point's vessels were relatively new. At least 114 were less than 10 years of age. Fewer than 20 vessels were older than 20 years (Table 3.13).

A considerable portion of the fleet (83 vessels) was made up of vessels less than 20' in length. However, there were quite a few vessels in the 21'-50' range including 20 which were 41'-50' long. At least seven vessels were 51' or longer. More than half the fleet carried multiple gear (Table 3.14). Carrying a single type of gear, however, was also frequent. Twenty-seven vessels reported only purse seine gear while 17 reported use of set gillnets. Eight vessels relied on longline gear, probably for halibut fishing, while three vessels reported pot gear only. Two of the three vessels reporting pot gear were larger than 80' long.

As in the King Cove area three types of gear may be used to capture salmon. They include purse seines, beach seines and set gillnets.

### 3.3 CATCH PER UNIT EFFORT

In this section catch per unit effort statistics are presented by gear type for selected areas of the Alaska Peninsula. The areas were selected due to their proximity to communities and their importance as harvest locations.

The three areas selected for purse seine gear analysis are the southeastern district, the southwestern district, and the northwestern district (see Exhibit 3.2 for district locations). The southeastern district extends from Kupreanof Point, the eastern boundary of the Alaska Peninsula area on the southside, to Point Aliaksin on the west and includes the major Shumagin Islands and Stepovak Bay fishing grounds. The community of Sand Point is in close proximity to these fishing grounds. The southwestern district includes all the waters on the southside of the Peninsula from Arch Point on the east to Cape Pankof on the west. King Cove is located in the southwestern district. The northwestern district covers the waters from Scotch Cap on the southwest corner of Unimak north and east to Moffett Point on the northside of the Peninsula. District waters also include Bechevin Bay and Isanotski Strait north of the False Pass cannery dock. Fishermen from False Pass beach seine intensively in this district.

The three areas selected for drift gillnet gear analysis are Ikatan Bay (statistical area 284-60), Port Heiden (statistical area 317-20), and several statistical areas in the Nelson Lagoon/Port Moller vicinity (statistical areas

TABLE 3.13

NUMBER OF VESSELS WITH A HOME PORT IN SAND POINT  
BY VESSEL LENGTH AND BY AGE GROUP, 1979

Vessel Age Group (years)	VESSEL LENGTH									Total
	Less than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
1 - 5	47	12	6	9	1	1		1	1	78
6 - 10	23	4	5	2	1			1		36
11 - 15	9	10	7	3	1					30
16 - 20	2	1	6	1						10
21 - 25			1	1						2
26 - 30		1								1
Older Than 31			2	4		1				7
Unknown	2	4							2	8
Total	83	32	27	20	3	2		2	3	172

Source: CFEC, 1979 Vessel License Listing by Owner-Name.



TABLE 3.14

NUMBER OF VESSELS WITH A HOME PORT IN SAND POINT  
BY VESSEL LENGTH AND BY GEAR TYPE, 1979

Gear Type	VESSEL LENGTH									Total
	Less Than 21'	21' to 30'	31' to 40'	41' to 50'	51' to 60'	61' to 70'	71' to 80'	81' to 90'	Unknown	
Purse Seine	14	11		1					1	27
Beach Seine	2	4								6
Drift Gillnet	1									1
Set Gillnet	14	2							1	17
Hand Troll		1								1
Longline	7		1							8
Pot				1				2		3
Multiple	37	11	25	18	3	2			1	97
Unknown	8	3	1							12
Total	83	32	27	20	3	2		2	3	172

Source: CFEC, 1979 Vessel License Listing by Owner-Name.

313-30 and 314-12, 20, and 30). Locations of the areas can be found on Exhibit 3.1. Ikatan Bay is fished by drift gillnet units from King Cove and False Pass while the communities of Port Heiden and Nelson Lagoon are closest to the other two selected areas.

The three areas selected for set gillnet gear analysis are the southeastern district (statistical areas 281 and 282), Nelson Lagoon/Port Moller vicinity (statistical areas 313-30 and 314-12, 20, and 30), and Port Heiden (statistical area 317-20). Set gillnetters from Sand Point are the primary users of this gear type in the southeastern district while residents from Nelson Lagoon and Port Heiden are chiefly responsible for set gillnet harvests in the areas in close proximity to their communities. The areas described above are not exhaustive of the fishery districts in the Alaska Peninsula Management Area. For example, the southcentral district between Sand Point and King Cove contains the highly productive Pavlof Bay; the Unimak Bight is also omitted; and the Sandy and Bear Rivers areas on the north have not been included. A more exhaustive qualitative approach based on community participation in all areas is used in Chapter 4.

#### Purse Seine Gear

Catch. Purse seine gear performance in area fisheries is depicted in Figure 3.1. As was discussed in chapter 2.0, use of purse seine gear over the 1975-1980 period grew and accounted for the dramatic growth in total catch in the Alaska Peninsula Management Area. The three areas discussed here show this same phenomenon.

For the three years starting in 1978, the southwestern district saw the most dramatic change as peak weekly catch rose from under 1,500 m.t. in 1978 and 1979 to 3,500 m.t. in 1980. In each case the peak was statistical week 33, which falls around mid- August.

Peak catches in the district around Sand Point were similar to those in the southwestern district in 1978 and occurred during the same week. In 1979 the southeastern district peak catch came two weeks earlier and was much higher (close to 2,000 m.t.) than the southwestern district peak catch. This growth, however, did not persist in 1980 as the southeastern peak catch fell again and the fishery stopped two weeks before the southwestern fishery.

Generally, purse seine catches in the northwestern district are lower than those of the other two areas. However, as Figure 3.1 illustrates, a week-by-week appraisal

Comparison of Weekly Salmon Catch by Purse Seine Gear  
in Selected District, 1978 - 1980

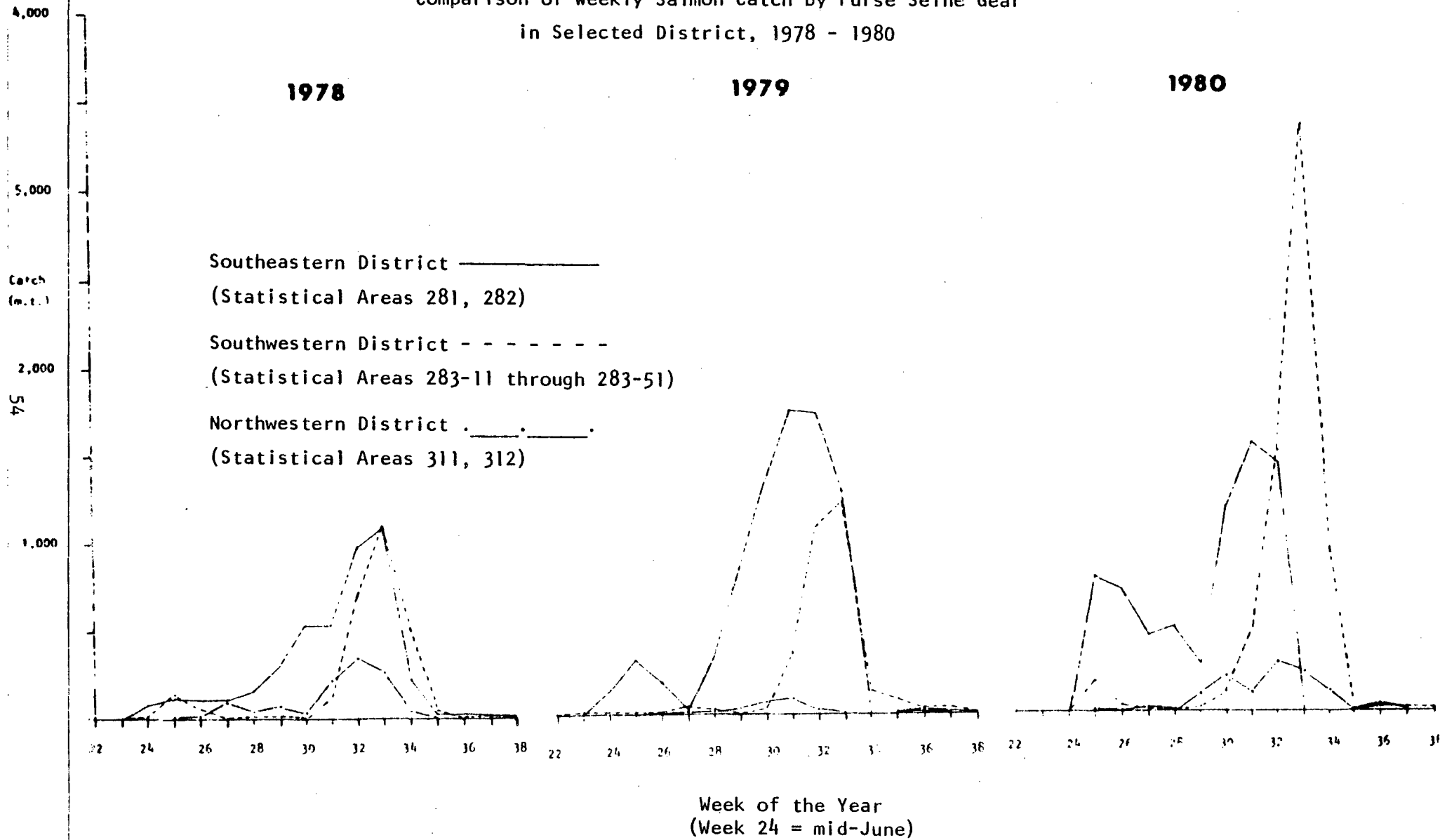


FIGURE 3.1

reveals that northwestern catches are higher than southwestern catches earlier in the season. Another general comment regards the distribution of catch over the season. The fishery around Sand Point occurs over a longer period while the southwestern district fishery tends to be more concentrated later in the season in August. This is the case because the Shumagin Islands fishing grounds (282-11) provide a convenient place for intercepting stocks bound for streams in many different statistical areas.

**Productivity.** The productivity index used in these discussions is catch per unit effort (CPUE). For the three years used here 1978-1980 purse seine CPUE in the southeastern district was the strongest of the three area fisheries during 1978 and 1979 but was surpassed by both southwestern and northwestern fisheries in 1980. This was particularly so in the latter part of the season after mid-July. The week-by-week CPUE in the southeastern district increased gradually (with fluctuations) to a peak in weeks 31 to 32 before the fishery came to a close a week or so later. Figure 3.2 shows that the week-by-week CPUE plots for this district were bi-modal in 1979 and 1980. In both years the first peak occurred very early in the season, in late June. The difference, however, is that the 1979 early peak was much stronger than the second peak.

The CPUE plots for purse seines in the southwestern district show that productivity in 1978 was similar to 1980's performance. The 1979 season did not show as strong a CPUE. The peak weekly CPUE's in 1978 and 1980 were in excess of 24,000 lbs. per landing. In 1979 the highest catch per landing was about 14,000 lbs.

Similar to performance in the southwestern area, CPUE's for the southwestern district show that 1979 was characterized by lower productivity than the 1978 and 1980 seasons. In 1979 there were three weeks in the middle of the season when no catch was made. Overall, southeast seems to have a higher level of productivity earlier in the season while the southwest was generally stronger towards the close, and the northwest fluctuates up and down through the season. The catch and effort statistics on which this and the discussion on drift and set gillnetting are based may be found in appendix tables A-11 to A-26. Comparable data for the earlier years 1975-1977 may be found in appendix tables A-1 to A-10. Exvessel information for 1980 is given in appendix tables A-27 to A-29.

Comparison of Weekly CPUE for Salmon by Purse Seine Gear  
in Selected Districts, 1978 - 1980

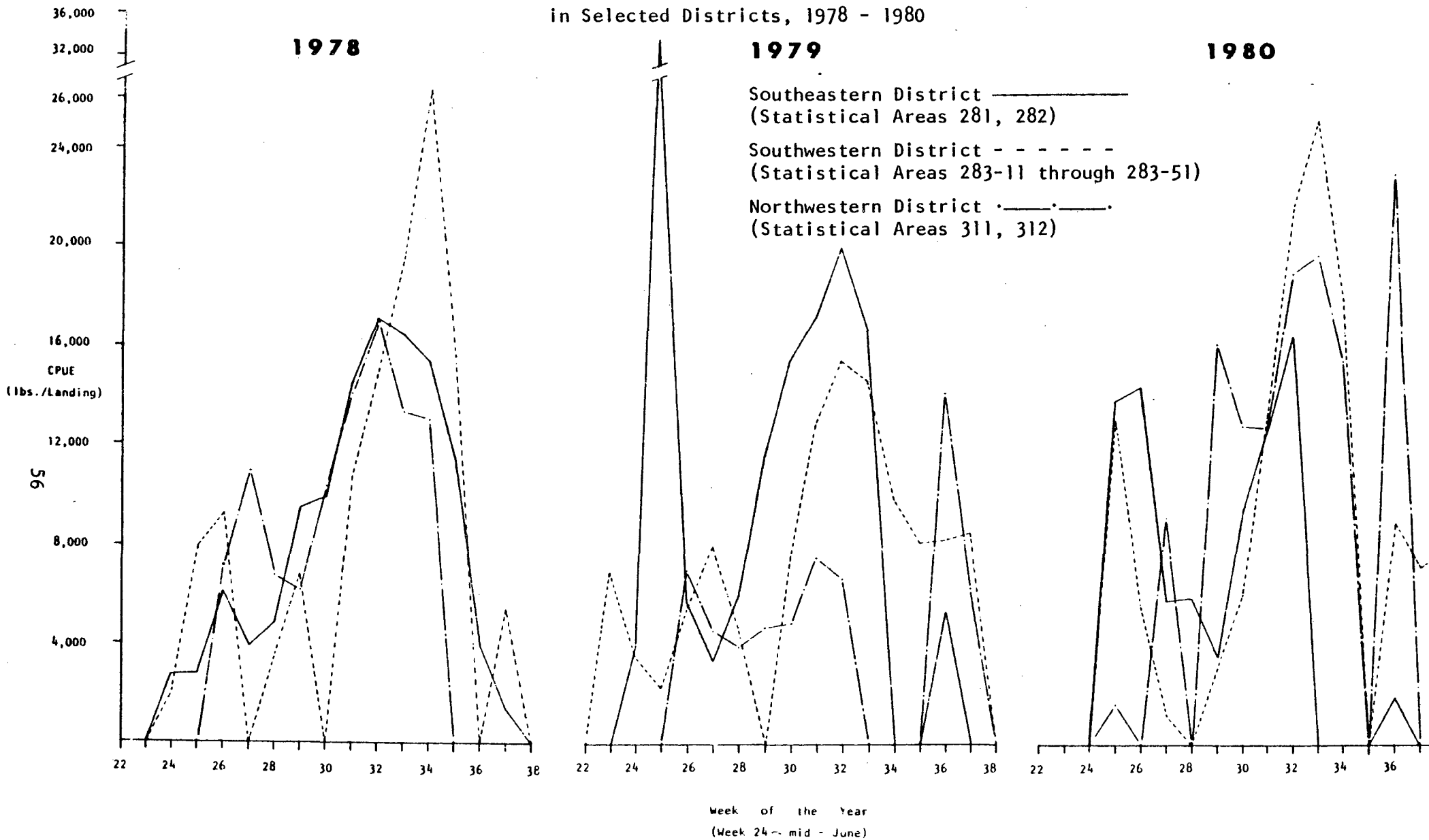


FIGURE 3.2

## Drift Gillnetting

Catch. Performance by drift gillnet gear in the areas analyzed is depicted in Figures 3.3 and 3.4. As noted earlier, the relative importance of the Ikatan Bay (284-60) fishery to overall drift gillnet catch fell from 35-40% in the early years (1975-78) to 20% in 1979 and 1980. This occurred for a combination of reasons including competition with purse seine gear, where the red run hit in the Unimak area, and incredibly strong runs to northside streams.

The area around Nelson Lagoon and Port Moller shows dible strength in each of the three years. Comparatively, Port Heiden is low in catch week by week and has extended periods during the season when no catch is recorded. In summary Ikatan Bay is strongest in terms of weekly catches but sees action for only about four weeks. On the other hand the Nelson Lagoon/Port Moller area, though registering lower catches, is characterized by a longer harvest and consistent season. Port Heiden shows the lowest weekly catches and experiences a split season.

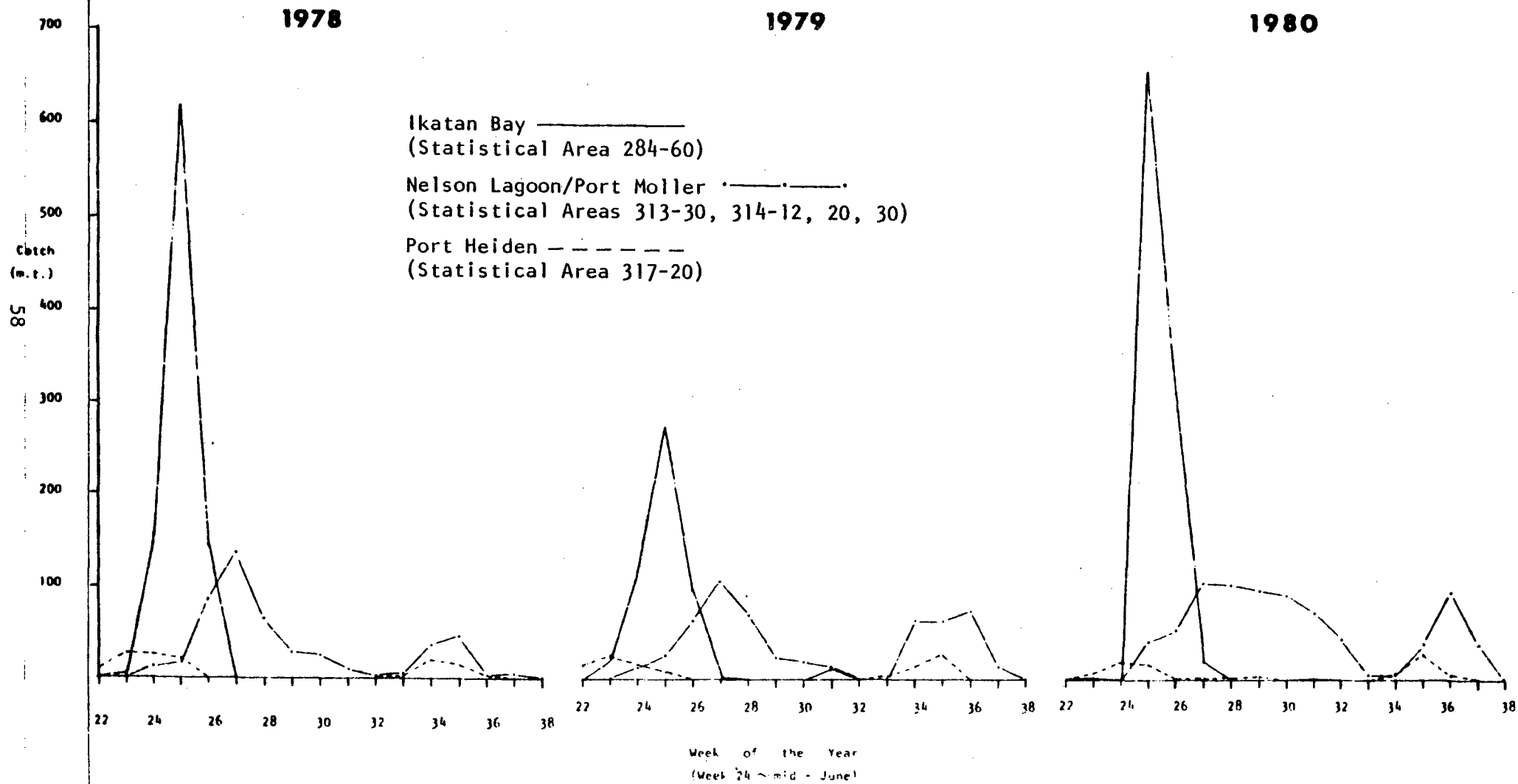
Productivity. The dominance of the Ikatan Bay area drift gillnetting in peak weekly catches is of no consequence when one examines CPUE'S. Surprisingly only in 1979 when peak catches were generally poor in this area does Ikatan Bay show a dominant CPUE of close to 24,000 lbs. per landing. For the most part, however, (see figure 3.4) Ikatan Bay CPUE's were lower than those of Nelson Lagoon/Port Moller and comparable to productivity in Port Heiden.

## Set Gillnetting

Catch. Performance by set gillnet gear in the areas analyzed is shown in Figures 3.5 and 3.6. Nelson Lagoon and the southeastern district are the major locations for set gillnet activity in the Alaska Peninsula management area. In 1978 Nelson Lagoon/Port Moller was dominant through most of the season. That is, almost each week the catch caught in this area was higher than in either the southeastern district or Port Heiden.

In 1979 and 1980, however, catch levels in the southeastern district rose significantly and approached those in Nelson Lagoon. Figure 3.5 shows that in 1979 the Nelson Lagoon/Port Moller area started strong and dominated the first four weeks. After that catches in the southeastern district were higher and remained so for approximately six weeks before catch levels again rose in the Nelson Lagoon/Port Moller to higher levels for the closing three weeks of the season. In 1980 the pattern was similar to 1979 with the southeastern district catches increasing over the previous year's levels

**Comparison of Weekly Salmon Catch by Drift Gillnet Gear  
in Selected Districts, 1978 - 1980**



**FIGURE 3.3**

Comparison of Weekly CPUE for Salmon by Drift Gillnet Gear  
in Selected Districts, 1978 - 1980

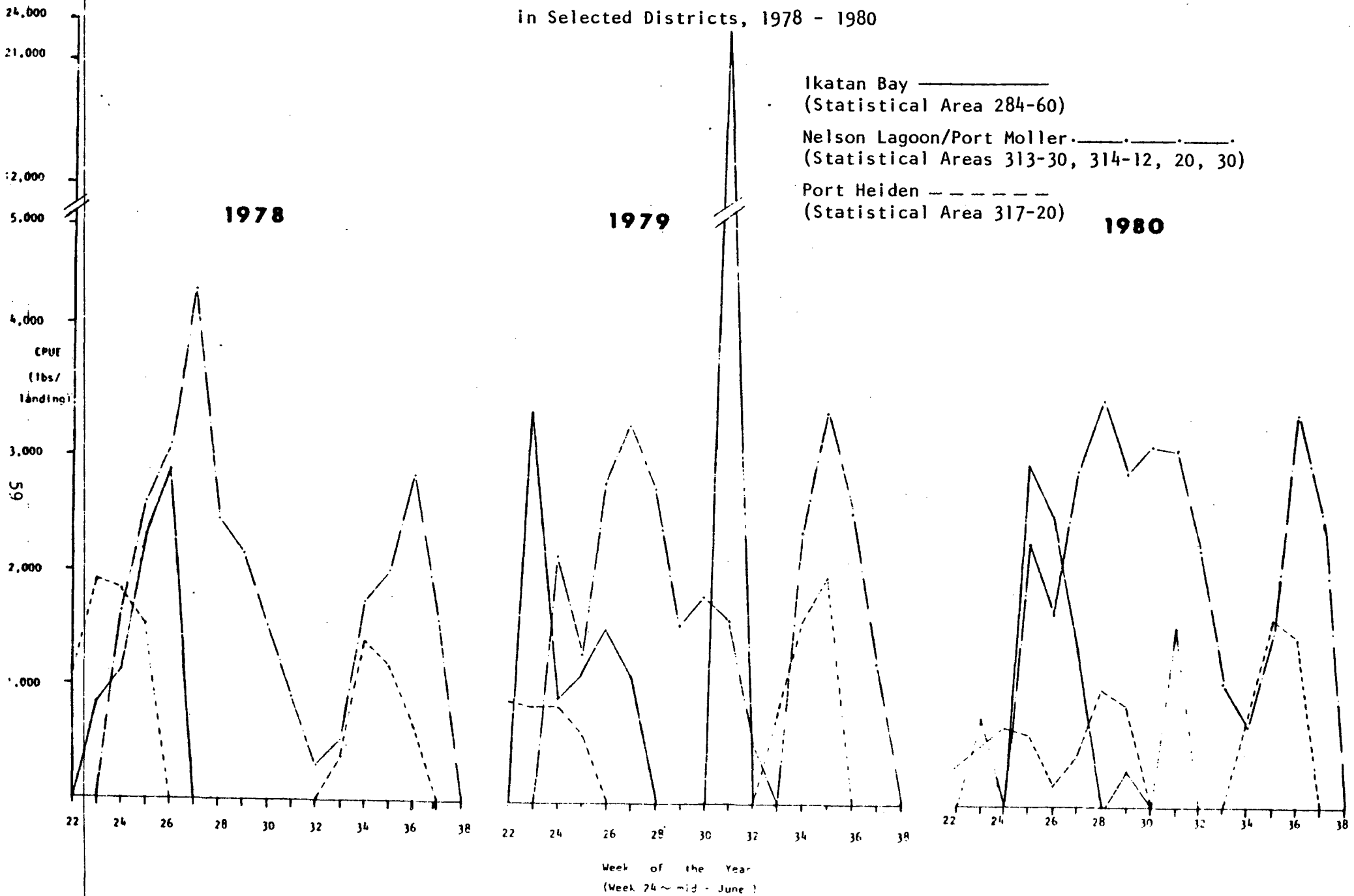


FIGURE 3.4



COMPARISON OF WEEKLY SALMON CATCH BY SET GILLNET GEAR  
IN SELECTED DISTRICTS, 1978 - 1980

1978

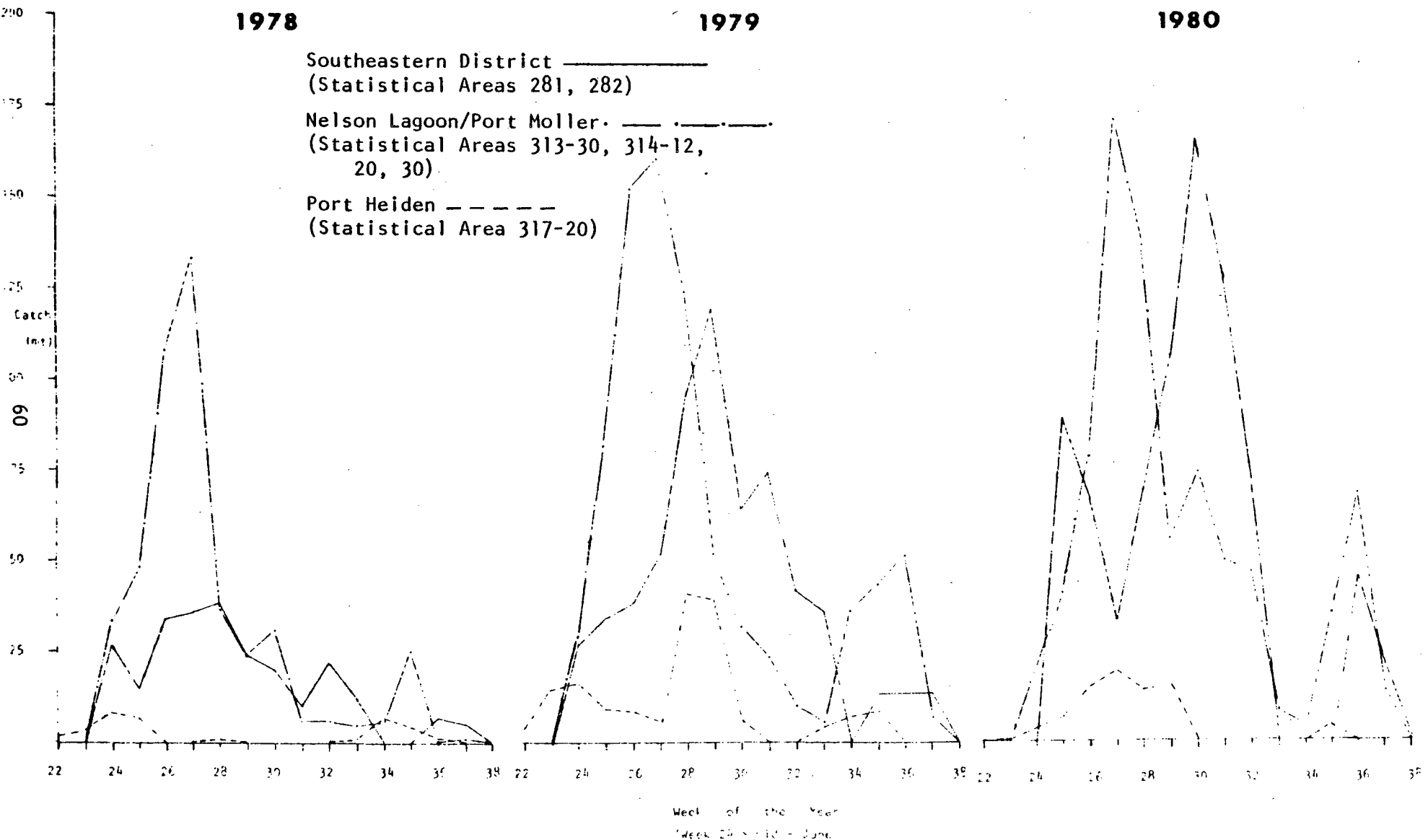
1979

1980

Southeastern District —————  
(Statistical Areas 281, 282)

Nelson Lagoon/Port Moller. - . - . - .  
(Statistical Areas 313-30, 314-12,  
20, 30)

Port Heiden - - - - -  
(Statistical Area 317-20)



Week of the Year  
Week 29 = 10 June

FIGURE 3.5

Comparison of Weekly CPUE for Salmon by Set Gillnet Gear  
in Selected Districts, 1978 - 1980

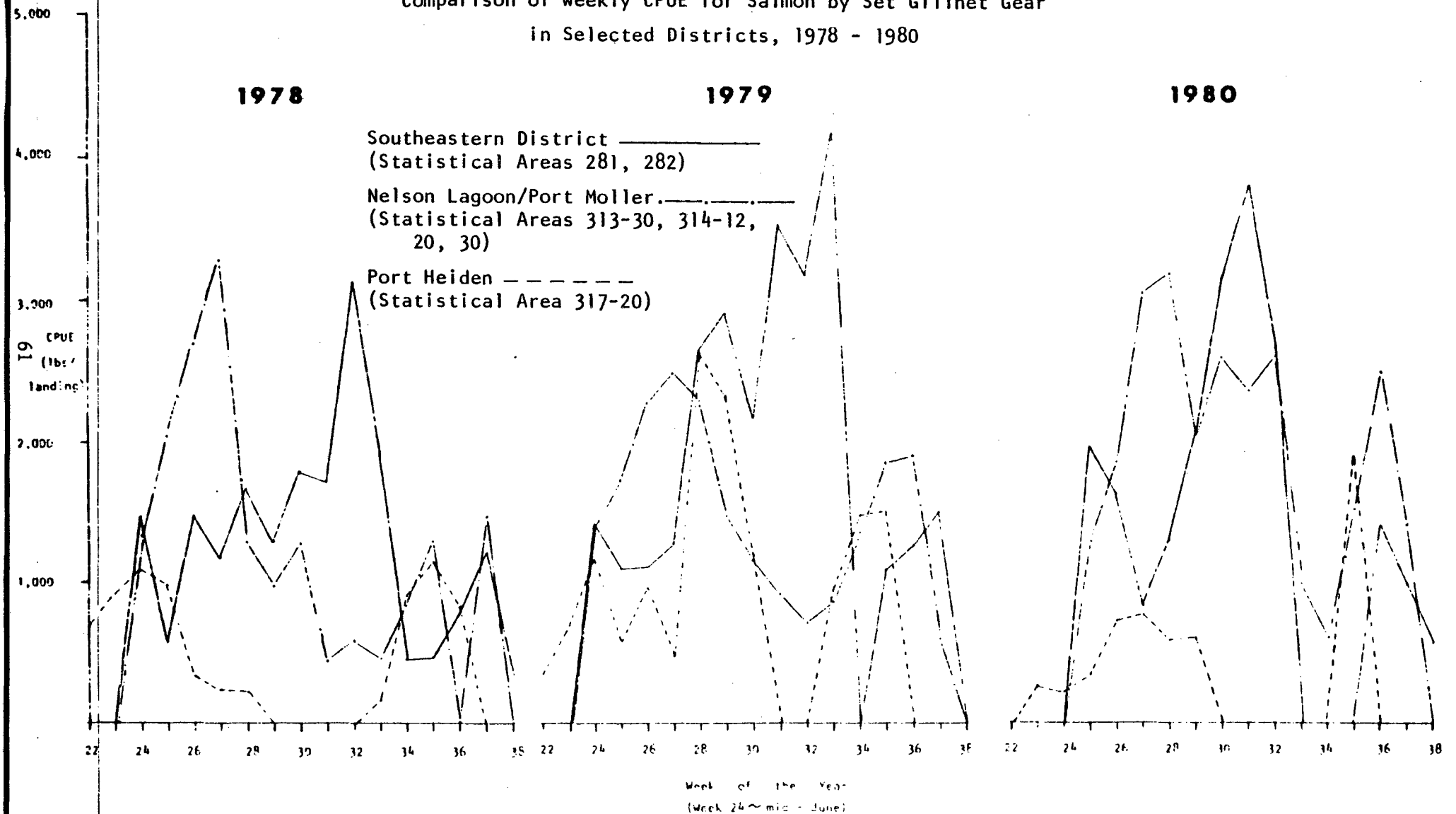


FIGURE 3.6

during the early and mid-season weeks. Port Heiden set gillnetting consistently showed lower catches and followed a split season pattern similar to that for drift gillnetting in the same area. This pattern is due to the break between the king salmon and silver salmon runs of the Meshik River.

Productivity. Catch per unit effort statistics presented in Figure 3.6 reveal two facts. The first is that productivity in terms of catch per landing closely follows the pattern established for total catches. In other words the Nelson Lagoon/Port Moller area and southeastern district share and exchange leadership during the season. The second fact is that CPUE's do not differ very much between the two leading areas, and furthermore, Port Heiden CPUE's are not too far below those of the other two areas.

The peak weekly catches per landing are usually in excess of 3,000 lbs. and have been as high as 4,000 lbs. in the Sand Point area. Most of the time, however, the CPUE's seem to be in the 1,000 to 2,000 lbs. per landing range.

## CHAPTER 4

### COMMUNITY PROFILES

#### 4.1 SAND POINT

##### 4.1.1 Sand Point Introduction

Sand Point is a rapidly growing fishing community located on the northwest corner of Popof Island. The surrounding Shumagin Islands have been the site of a succession of fisheries dating back to the discovery of important cod resources before the turn of the century. This strategic location has contributed to a rich history which makes contemporary Sand Point a diverse community well located to prosper from the recent good fortunes of the Alaska Peninsula salmon fishery.

Although fairly remote, lying 571 air miles west of Anchorage, Sand Point is well served by both marine and air transportation. Scheduled air service is provided six days a week by Reeve Air Aleutian and marine freight ships arrive weekly. The Alaska State Ferry system has recently included Sand Point in its scheduled service.

The most important topographical feature of Sand Point is its favorable natural harbor. Although the island is hilly, conditions at the mouth of Humboldt Creek were conducive to early use as a harbor site, and more recently to development of a modern small boat harbor.

The climate of the surrounding Shumagin Islands can be characterized by three elements typical of the south side of the Alaska Peninsula: moderate temperature, high levels of precipitation, and high winds. Average temperatures range from 24 degrees F in March to 56 degrees F in June. Measurable precipitation occurs three out of five days of the year with an annual average of 23 inches of precipitation, including 40.5 inches of snow. Winds are predominantly from the southwest and northwest and average 13 mph throughout the entire year. Winds as high as 70 mph have been recorded in Sand Point. While this climate is not as severe as that of the exposed north side of the peninsula, weather nonetheless represents a major constraint on the activity of the fishing fleet (City of Sand Point 1981a).

Sand Point was established in the 1890s by a Caucasian entrepreneur as a supply station for the San Francisco-based

ships en route to the newly discovered cod fishery in the Okhotsk Sea off the Russian coast. An equally important cod fishery was discovered shortly thereafter in the Shumagin Islands (Fitzgerald 1981). Two other economic activities emerged as significant in the early part of the present century alongside the continuing importance of the fishery. Fox farming was briefly an important economic enterprise on Popof and other nearby islands, but the discovery of a commercial quantity of gold on neighboring Unga was the more important of the non-fishery sources of growth. In fact, gold mining brought to Unga a larger population than that of Sand Point until the deposit began to play out in the 1930s. Superior harbor conditions and the continuing importance of fishing provided Sand Point with a base for sustained growth (Jones and Ward 1973:10-11).

With the establishment of the first salmon cannery at Sand Point in 1931 by Alaska Pacific Salmon, the modern role of this community as a seafood processing site was inaugurated. This facility, located on the gravel spit near the present day airstrip, eventually ceased seafood processing and became a seasonal fish camp, now operated by Ocean Beauty Alaska. It was joined by another facility on the spit, which is now operated by Peter Pan.

Closer to the center of town the first commercial building in the community was converted into a halibut processing facility and renamed Aleutian Cold Storage in 1946. Since then, this plant has diversified operations to include a number of species, and it remains the only processing facility currently active in the community, having just added salmon to its operation in 1980.

The continuing prosperity at Sand Point contrasts sharply with the pattern at a number of Aleut villages in the vicinity. From 1950 to 1970, Sand Point received immigrants from a number of nearby villages, notably, Unga and Pauloff Harbor (also called Sanak). The more favorable economic opportunities available in Sand Point set in motion a self-reinforcing process of decline in the smaller villages. As people left the smaller villages for Sand Point, the range of public and private services available suffered; conversely, as Sand Point grew, it became the obvious site for improved and expanded public services.

In short, the community of Sand Point has always grown as a result of involvement with an expanding fishing industry: first through its capacities as a commercial supply and repair site, and later as a center of harvesting and processing activities. In recent decades the regional economy of the

area surrounding Sand Point has become heavily dependent upon the fishery as other enterprises played out, and the consolidation of regional economic activity and population has contributed strongly to the recent growth of the community.

#### 4.1.2 Sand Point Demography

Population Trends: Past, Present and Future. A review of historic trends in population growth for Sand Point reveals several important periods with different features. Table 4.1.1 indicates the population in Sand Point and the most important neighboring villages from 1890 to the present. During the period up to 1929, the population of Sand Point actually declined from its initial level, but after 1930 the community experienced rapid and sustained growth. The rate of increase is particularly marked for the period after 1950, when consolidation of the regional population began in earnest.

On neighboring Unga Island, the village of Unga experienced growth in population, associated with gold mining activity for the most part, up until 1930. The population then began to decline until the village was abandoned in the late 1960s. Pauloff Harbor, on Sanak Island, also contributed most of its population to Sand Point during the 1970s, but in contrast to Unga, Pauloff Harbor had never grown very large, and its population remained relatively constant in size up to the time the village was abandoned.

The significant trends effecting the present population of Sand Point emerged after 1930. On the one hand, the rise of the modern fishery, with a number of important facilities at Sand Point, constituted the base for continuing economic expansion and population growth. The strength of this trend is not yet played out, and subject to the noteworthy constraints of the limited entry regulatory program, the fishery will continue to provide a base for new growth in the community.

The second trend to emerge after 1930 was the consolidation of the regional population into Sand Point. Several neighboring villages were abandoned, their residents moving to Sand Point during this period. This trend has clearly run its course, as there remain no small villages in the vicinity of Sand Point. Thus, while population redistribution within the region played an important role in generating the present population configuration of the community, it will not do so in the future. Natural increase among the resident population and immigration will be the major components of future population growth at Sand Point.

TABLE 4.1.1  
 HISTORICAL TRENDS IN POPULATION:  
 SAND POINT AND MAJOR NEIGHBORING VILLAGES

	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
Sand Point	146			60	69	99	107	254	360	625
Pirate Cove				98						
Unga	157	33	108	313	150	152	107	43		
Squaw Harbor						79	45		21	
Pauloff Harbor (Sanak)	132			62	52	61	68	77	3	

Sources: Jones and Woods 1973, City of Sand Point 1981a

TABLE 4.1.2  
 SAND POINT PROJECTED POPULATION GROWTH, 1980-2000

Method	1980	1990	2000
"Average Annual Growth"	794	1013.6	1294.41
"Straight Line"	900	2150	3400
"Rate of Increase"	900	2025	4680
"Economic Base"	900	1675	3099

Sources: City of Sand Point 1981a, Lane-Knoff and Plunkett 1981

Estimates of the Sand Point population in the year 2000 vary widely, ranging from a low estimate of 1294 to a high estimate of 4680. As presented in Table 4.1.2, these estimates are derived from different methods. Without entering into a detailed examination of the premises behind each method, it is safe to reject three of these estimates as extremely unlikely. The first three estimates listed on Table 4.1.2 all generate estimates based upon the continuation of numerical trends from the past. No attention is paid to the historical causes of these trends, nor to the likelihood that these factors will continue into the future. The fourth method, in contrast, bases its estimate upon the projected growth in the bottomfishery and the likely population increase associated with this growth. While the estimate which was generated through this method seems considerably optimistic, this method has the merit of making its assumptions clear so that as more detailed information about the bottomfishery becomes available, this projection can be revised.

These remarks indicate the extreme difficulty of estimating population growth in a small community over a relatively long period of time. In the shorter term, however, several factors indicate the current pressures toward population growth in Sand Point. The most important of these is the very recent increase in the number of births each year, as noted below.

<u>Year</u>	<u>Births</u>
1979	10
1980	25

These figures, provided by the City of Sand Point Health Clinic, suggest that the rate of family formation is accelerating rapidly, perhaps as a result of the extremely profitable past few years in the salmon fishery. This economic prosperity, in the view of several informants, encourages young couples to begin their families now rather than holding off for another few years.

Another indicator of population pressure is found in the demand for housing. When the Shumagin Corporation announced plans to subdivide and develop a tract of land including 125 lots, over 160 requests were quickly submitted. This suggests that the rate of new household formation will accelerate when new land is available for homes.

Finally, the continued health of the salmon fishery would suggest continuing population growth through both natural increase and immigration. Despite this generally favorable



picture, the limited entry regulation of the salmon fishery could have a dampening effect inasmuch as young people who are not able to obtain a limited entry permit from their family might well feel pressured to leave the community in search of employment.

Population Structure: Age, Sex, Ethnicity, and Household Size. The 1980 population of Sand Point was 794 according to a census conducted that year by the City of Sand Point. The federal census that year enumerated 625 local residents. In 1981, the city census found 846 residents (City of Sand Point 1981). In both instances, the city's census was conducted during the summer when the population of Sand Point is considerably larger than the year-round average as a result of several factors which contribute to a seasonal increase. Transient boats with crews made up predominantly of outsiders use Sand Point as a summer base of operations, local boats hire a number of nonresidents as crew members, and the cold storage plant and fish camps bring in a large seasonal workforce at this time. Unfortunately, no figures were available regarding the size of the year-round population, but 600 to 650 would be a reasonable estimate.

The Sand Point population is young with only a small number of senior citizens. While no comprehensive information on the age structure of the population was available, figures on preschool and school enrollments, shown in Table 4.1.3, support the observation regarding the high proportion of young people. When the number of recent births is added, 210 of 794 (26.4%) of the total population is under the age of 18. If it were possible to subtract from the figure for the total population those who are summer or seasonal residents only, then the proportion of school-aged children in the year-round resident population would be much greater.

The sex ratio of Sand Point shows that males outnumber females. Males make up 54% (n=429) of the population while females constitute 46% (n=365). This ratio is closer than would be expected of a community which attracts a seasonal workforce which is disproportionately male.

The residents of Sand Point are predominantly of Aleut heritage. Russian and Northern European surnames attest to the historical influence of these groups: the former prior to the 19th century, the latter after entering this region with the cod fishery of the late 19th and early 20th century. In 1978, according to the city's Comprehensive Plan, 87% of the Sand Point population were of Aleut origin (City of Sand Point 1981). In 1970, the proportion of Aleut people was 74.4%. Perhaps this increase was due to the result of immigration

TABLE 4.1.3  
SAND POINT SCHOOL AGE POPULATION, 1980-1981

Approximate Age	Grade	Number
17	12	11
16	11	19
15	10	13
14	9	12
13	8	11
12	7	11
11	6	14
10	5	6
9	4	9
8	3	11
7	2	9
6	1	11
5	K	18
4	Preschool	13
3	Preschool	17
		173 Total

Source: Lane-Knorr and Plunkett 1981

TABLE 4.1.4  
SAND POINT HOUSEHOLD SIZE, 1980-1981

Household Size	1980 Number of Cases	1981 Number of Cases
1	26	24
2	32	43
3	38	39
4	38	32
5	22	23
6	9	8
7	9	7
8	0	2
Total	177	178
Average number per household:	3.45	3.28

Note: A number of individuals were listed in the census each year as living at the Aleutian Cold Storage Bunkhouse, on local vessels, or at the fish camps on the spit; these have not been included in the present analysis. In 1980 these people number 184 persons, while in 1981 there were 197 such persons.

from the neighboring villages during this decade. For the future, however, it is likely that this proportion will drop as continuing health in the fishery attracts new residents from outside the region.

During 1980, the resident population occupied 177 households in addition to those people living at the processing facilities, the bunkhouse, and on fishing boats. Excluding these unusual housing situations from consideration, the average number of persons per household was 3.45, as noted on Table 4.1.4. In 1981, the average number of persons per household was 3.26; relative to the preceeding year, one new household was occupied while the population living in houses had decreased slightly. Interestingly, despite the local view that Sand Point suffers from an accute shortage of housing, the average figures for household size are lower than in other communities in the study area.

#### 4.1.3 Sand Point Socioeconomic Organization

##### Fisheries: Commercial Harvesting

General Overview. The major species pursued by Sand Point fishermen are salmon and crab. The pursuit of these species is accomplished in a variety of ways involving gear types, vessels, and area locations.

Under the Limited Entry regulations affecting all salmon fisheries in Alaska, Sand Point fishermen are licensed to operate one or more of the three salmon harvest gear types: purse seine, drift gillnet, or set gillnet. In addition, a significant number of the vessels use pots to fish for king and Tanner crab in the winter. The various gear types are combined aboard Sand Point vessels in four major strategies. The large limit purse seine vessels typically use beach seines for part of the season and crab pots during the winter. In a strategy which has emerged more recently, intermediate-sized vessels use drift gillnets for most of the season and turn to hand purse seines, or beach seining during the pink salmon runs. A third strategy combines set gillnetting with hand purse seining. The fourth strategy is unique to Sand Point among the communities on the southside of the Alaska Peninsula. Historically, many vessels devoted their efforts exclusively to set gillnetting, and a number continue to practice this single gear type strategy.

The first strategy, combining purse seines, beach seines, and crab pots, was pursued by an estimated 33 Sand Point vessels in 1981. An additional 16 vessels utilize both seine gears without participating in the winter crab fishery. These

vessels range in size from 36 to 58 feet, the majority being of the 58-foot "limit" configuration, so-called because current regulations limit seine vessels in Alaska to this size or smaller. A smaller group of vessels, generally older in age, cluster around the 42-foot length.

Fishermen pursuing this strategy begin their season in June in the South Unimak or False Pass fishery, located on the south side of Unimak Island. The bulk of the run occurs during the second and third weeks of June, and the Unimak fishery is virtually over by the end of June. Most of these vessels return to Sand Point to fish locally during the slack weeks of early July.

By late July another important run begins as stocks of pink salmon pass through a number of important deep water locations on the way to inshore areas. The purse seine boats congregate at these points in the Shumagin Islands. During the later part of July and early August, most of these boats will convert to beach seining, a technique for use in shallower waters, in order to pursue the pink salmon runs nearer the shore. This activity is concentrated in the bays on the south side of the Alaska Peninsula, from Pavlof Bay to Kupreanof Point. Canoe Bay, a very shallow inlet in the northeast corner of Pavlof Bay is a particularly productive pink salmon site. When strong pink runs are anticipated in the Aleutian Islands, some Sand Point vessels make the long journey west to take part in this harvest.

By September these boats are being prepared for the fall and winter crab season. These boats, considerably smaller than the Bering Sea class crabbers which average 120 feet in length, are unable to withstand the severe Bering Sea storm weather. As a result, Sand Point vessels limit their crab fishing efforts to the southside of the Alaska Peninsula. While a few boats venture as far west as Beaver Inlet and Unalaska Island, the great bulk of the Sand Point crabbing effort is concentrated in the Unimak Bight area, Pavlof Bay, and to a smaller extent in the Shumagin Islands. The Sand Point boats generally work between 100 and 150 crab pots.

In the second strategy, approximately 15 vessels utilize a combination of drift gillnet gear and beach seines. This particular strategy is new in Sand Point, having emerged as a significant feature of the Sand Point picture in the last four to five years.

These boats begin their three-part season in early June in the South Unimak fishery. The timing of their participation in this fishery parallels that of the purse

seine vessels, although the drift gillnet boats use different, generally less exposed, areas with East and West Anchor Cove mentioned as especially productive sites.

The drift gillnet vessels are precluded by regulation from fishing east of Morzhovoi Bay and so, as the Unimak fishery closes at the end of June, these boats travel through False Pass and along the north side of the peninsula to Port Moller, the second site of their activity. Throughout the month of July the Sand Point drift gillnet boats fish an area extending from Frank's Point to Three Hills, that is, to the north and east of Port Moller itself. The preponderance of their effort takes place on the outside shores where the boats are quite exposed to the weather and can be badly damaged if caught by storms.

In late July the majority of these boats undertake the third part of their season, returning to the south side of the peninsula to fish the pink runs with beach seines. A small number of the Sand Point vessels remain on the north side for the late silver salmon run in the Port Moller area.

The fishermen pursuing the third strategy combine the use of set gillnets for most of the season, with the use of beach seines for the pink salmon runs. Some 23 boats, with an average size of 32 feet, pursue this strategy. Most of these vessels fish at registered or traditionally recognized set net sites for the greater part of the summer. For the most part, these sites are located in the bays on the south side of the Alaska Peninsula in an area extending from Stepovak to Balboa Bay. A small number of sites are found in the Shumagin Islands and a small number of the set net fishermen fish at varying locations ranging as far away as Beaver Bay. With the arrival of the pink runs in August, these vessels turn to beach seining in the bays on the south side of the peninsula.

Although at present only a few vessels pursue the fourth strategy, based on exclusive use of set gillnets, this was historically the more important of the set net strategies. Beach seining has only been adopted as a supplement to set gillnetting in the past half decade. In 1979, 13 vessels pursued this strategy using vessels averaging 32 feet in length. While exact figures for 1981 are not available for this strategy, the current total is lower than that of 1979. The general trend is toward combined use of set gillnet and beach seine gear, although in years with exceptionally favorable conditions for set gillnetting, as was the case in 1979, more vessels return to this strategy. The seasonal pattern and the areas used in this strategy do not differ significantly from those of the combined set gillnet

strategy.

Another addition to the salmon strategies in Sand Point has recently been added, although to date only a handful of vessels have tried this particular location and gear type. The Izembeck-Moffat Lagoon on the north side of the Alaska Peninsula has had a reputation as very difficult fishing because of the shallow water and the high potential for winds. In the last year or two, five Sand Point vessels have attempted, with moderate success, to fish this lagoon. It is unlikely that more will follow.

A very small number of boats pursue strategies based on other species of fish or shellfish, but these must be seen as marginal for the fleet as a whole. There is a single 68-foot shrimp trawler in the Sand Point fleet, but it has been idle for the past two years due to the decline in the shrimp stocks in Pavlof Bay and other southside locations since the mid-1970s. Three vessels fish exclusively for halibut during the summer, in each case a result of the fact that the boat owner does not have a salmon permit. At present there are no Sand Point boats regularly participating in the cod or other bottomfisheries, although a few boat owners have tried this on an experimental basis.

Although the fishermen of Sand Point catch all five species of salmon, pink salmon predominate in the total season's harvest. When the actual harvests for 1975 through 1979 are averaged, pink salmon make up 66% of the total. From this it is clear that the southside fisheries in late July actually make up the major fishing opportunity for the Sand Point fleet. Second in numerical importance are the red salmon caught predominantly in the June South Unimak fishery and the July Port Moller fishery. Red salmon made up 21% of the average harvest during the 1975 through 1979 seasons. Dog salmon are third in importance, constituting 12%. These are caught in the southside bays in late July, alongside the more important pink stocks. A small proportion of silvers, just under 2% of the average over the preceding five years, are taken, predominantly by the small number of Sand Point boats which remain on the north side for the late August-early September silver runs.

Following salmon in importance are the three species of crab. King, opilio, and bairdi crab are taken, although the first two make up the bulk of the crab harvest. As noted previously, virtually the entire crab harvest is from the southside of the peninsula.

Limited Entry Permits. Under the state's limited entry program for salmon fisheries, Sand Point fishermen are licensed for the Alaska Peninsula, known as Area M. As of early 1980, fishermen in Sand Point held a total of 118 permits, distributed in the combinations and frequencies shown in Table 4.1.5. Among these, the purse seine permits, which permit either beach or purse seining, are the most common type, with 42% of the total. Next in rank are the set net permits which constitute 33%, followed by drift gillnet permits which make up 25% of the total.

Most permit holders have more than a single permit, with an average of 1.62 permits per holder. The combinations of permits held correspond roughly with the major strategies noted above, that is, drift and set gillnet permits are usually held in combination with a purse seine permit. There are 18 cases in which a set gillnet permit is the only permit held, indicating the historical importance of the exclusive set gillnetting strategy. A single purse seine permit is the next most common pattern, with 15 cases and a similar number of cases are found in which the permit holder owns both a purse seine and a drift gillnet permit.

These figures reveal several important aspects of the fishing patterns at Sand Point. For example, the generally low number of drift permits suggests that this gear was little used in Sand Point at the time of implementation of the limited entry program. More importantly, nearly all of the drift gillnet permits are held in combination with other permits. Drift gillnetting, then, is a relatively new strategy which was added on to previous adaptations. With the prevalence of strategies using a combination of gear types, these patterns of multiple permit holding do not indicate "surplus" permits.

The king crab fishery is not presently restricted in entry, although all fishermen are licensed. Sixty-nine Sand Point fishermen were licensed in 1981 for this fishery. This figure represents a steady increase in the number of crab licenses since the low of 29 in 1975.

Areas and Times Fished. The Sand Point fishermen fish exclusively in the Alaska Peninsula area, or Area M. This area is divided into a number of sub-districts with some variation in regulations between them, particularly between those on the northside of the peninsula and those on the southside. The most significant difference concerns the type of openings: on the northside the subdistricts, for the most part, have regular weekly openings throughout the season, while on the southside virtually all openings are by emergency orders.

TABLE 4.1.5

SAND POINT PATTERNS OF LIMITED ENTRY PERMIT HOLDINGS  
1980

<u>Permit Holding Pattern</u>	<u>Number of Cases</u>	<u>Total Permits</u>
Purse seine, drift gillnet, set gillnet	9	27
Purse seine, drift gillnet	15	30
Purse seine, set gillnet	11	22
Drift gillnet, set gillnet	1	2
Purse seine	15	15
Drift gillnet	4	4
Set gillnet	18	18
		<u>118 Total</u>

Average number of permits per permit holder: 1.62



The South Unimak fishery is especially tightly regulated since it is an interception fishery, harvesting the Bristol Bay runs on their way to the bay. The South Unimak fishery is allocated a quota of the projected Bristol Bay red salmon run. In 1981 this quota totaled 8.3%, of which 6.8% was to be taken in the South Unimak district and the remainder in the Shumagin Islands. This fishery is further regulated in order to distribute the impacts of this harvest throughout the month of June. The heaviest part of the run and the majority of the quota to be taken, occur in the third week of June.

Considering the fleet as a whole, a more general picture of the geographical distribution of effort throughout the season can be identified. As noted in the discussion above concerning the various strategies pursued by Sand Point fishermen, the vast majority of the local fleet begins fishing in June in the Unimak Bight area. The set gillnet-beach seine fishermen are an exception to this as they remain in the vicinity of Sand Point during this early portion of the salmon season, as do a limited number of purse seine-crab strategy fishermen.

When the Unimak runs decline at the end of June, the drift net-beach seine fishermen move through False Pass up to the Port Moller region where they fish the outside shores as far north as Ilnik throughout the month of July. The purse seine-crab fishermen, in contrast, return to the Shumagin Islands and pass the early part of the month of July "scratch fishing" the generally light runs of this period. By the end of the month, the pink runs will begin to pass through the Shumagin Islands on the way to the bays on the south side of the peninsula. Some of the purse seiners continue to use deep water gear at this time, but by August virtually all of these boats will have converted over to the shallower beach seine gear. The set net fishermen continue to fish their sites in the Shumagins throughout July.

When the pink runs become more concentrated in early August, most vessels, including the drift gillnet boats returning from the Port Moller area, have turned to beach seine gear. This portion of the season lasts until the end of August.

By mid-September, the vessels fishing southside pink salmon are finished and the few vessels which fished the silver run outside of Port Moller have returned to the community. The salmon season is over and many fishermen store their equipment and leave the village for short vacations. The crab fishermen, on the other hand, begin to ready their pots and other equipment for the fall and winter crab

fishery.

**Fleet Characteristics.** The resident Sand Point fleet numbers approximately 91 vessels, nearly all of which are engaged in the salmon fishery. About one-third of these boats also fish for crab in the winter, and a handful are involved in the halibut and shrimp fisheries. Two other groups of boats make use of Sand Point harbor. A small number of boats belonging to non-residents dock at Sand Point year round. These include eight Chignik seiners and seven drift boats of Washington state registry. A much larger group of boats, referred to as transients, pass through Sand Point harbor at various times of the year. Numbering 82 vessels during the period from April 1980 to April 1981, this group is made up predominantly of two kinds of boats. Thirty-nine Bering Sea class crab boats, ranging in size from 96 to 136 feet, use the dock in the fall and winter. Another important group is made up of 19 limit seiners of Washington state registry which moor at the dock for periods not exceeding three months during the year.

The single most striking characteristic of the Sand Point fleet is the large number of new boats. As shown in Table 4.1.6, 29 boats (nearly one-third of the fleet) were constructed in 1978 or after. This represents a tremendous rate of vessel replacement during the recent prosperity of the salmon fishery. Although the tendency to upgrade the boats is not limited to any one strategy among those discussed above, there is some indication that set net-beach seine strategy boat operators have been less likely than the others to replace or upgrade their vessels.

Accompanying the trend toward new vessel construction there have been significant improvements in electronics equipment. Vessels now commonly have several radios--CB, VHF, and Single Side Band--radar, depth recorders, and LORAN. This equipment is extremely expensive to install and maintain, but the increased safety and efficiency which is provided convinces most fishermen that the expense is well worth the benefit. A fulltime electronics technician now resides in Sand Point year around operating a franchise of a Seattle firm.

The costs of the vessels vary considerably depending upon the year of construction, size of the vessel, and the material from which it is made. The 58-foot limit seiners which have joined the fleet in the past three years are said to have cost upwards of \$700,000 each, with some variation depending upon the manufacturer and the configuration of the boat. Most of these are constructed of fiberglass although a few new steel

TABLE 4.1.6  
SAND POINT FISHING VESSELS  
AGE AND LENGTH, 1981

Length	Year of Construction															Total	
	1981	80	79	78	77	76	75	74	73	72	71	70	69	68	pre '68		
less than 28'				1													1
28-30'			2							1				1	2		6
31-33'		1	1	1								1	1		7		12
34-36'		2		1				1	1				2		2		9
37-39'			2	1							1		1		1		6
40-42'	1		3														4
43-45'		1	1							1					1		4
46-48'		1	1	1											2		5
49-51'			2	1			1								4		8
42-54'			2					1									3
55-57'																	0
58-60'			1			1							1				3
over 60'*							1	1							1		3
Totals	1	5	15	6		1	2	2	1	3	1	1	5	1	20		64

Notes: Information available on 67 vessels.

\* Boats of this size include 2 crabbing vessels and 1 shrimp trawler.

boats are found. The smaller and older boats pursuing this strategy are valued in the neighborhood of \$350,000 for vessels made of wood averaging 42 feet in length. Vessels involved in the drift gillnetting-beach seining strategy have also been upgraded recently. Half of the vessels in this strategy were built in 1979 or later and virtually all are of relatively recent fiberglass construction. These vessels range in size from 29 to 41 feet, but most are 34 and 35 feet in length. The boats pursuing the set net-beach seine strategy are generally older and much smaller in size. Half of these boats were built before 1969 and half are 32 feet in length or less, although the range is from 22 to 46 feet in length.

The most important factor in this trend toward upgrading the fleet has, of course, been the extremely prosperous past few years in the salmon fishery. Another important factor, however, has been the availability of subsidized loans through the Alaska Commercial Fishery Loan program. Sand Point boat owners have been relatively well served by this program, as can be seen in Table 4.1.7.

While these are substantial sums of money and Sand Point has received a steadily increasing number of loans, it is important to note that the sums of individual loans were not large in relation to the costs of purchasing new equipment.

Tax incentives toward reinvestment of fishery earnings in fishery equipment have also played an important role in the trend toward the technical improvements in the fleet. Under the federal Fishing Vessel Capital Construction program, boat owners are able to defer taxes on a substantial portion of their earnings when those funds are reinvested in new fishing vessels. Although informants were understandably reluctant to discuss their tax circumstances, a number of instances were mentioned in which new vessels were purchased solely as a result of this particular tax incentive.

**Vessel Economics.** The cost of the vessel is not the sole factor in considering the economics of running a fishing boat. There are significant costs associated with other gear which must be purchased as well as with the payments due the crew members aboard the boat.

The minimum equipment for a purse seine strategy vessel would come to approximately \$77,000, based upon figures collected at neighboring King Cove, shown in Table 4.1.8. This sum includes two very expensive pieces of equipment: a purse seine costing approximately \$30,000, and a deep draft aluminum skiff also valued at approximately \$30,000. The equipment needed for a beach seine operation is considerably

TABLE 4.1.7

## ALASKA STATE COMMERCIAL FISHING LOANS: SAND POINT

<u>FY</u>	<u>Number of Loans</u>	<u>Value of Loans</u>
1977	3	\$ 153,800
1978	6	529,000
1979	7	647,500
1980 (partial)	<u>1</u>	<u>45,000</u>
Totals:	17	\$ 1,375,300

TABLE 4.1.8

## SAND POINT FISHING GEAR ESTIMATED COSTS, 1981

## 1. Purse Seining

a. Limit Purse Seine			
250 fathom purse seine	\$ 30,000		
150 fathom lead	3,000		
16-20' aluminum skiff with diesel engine	30,000		
Power block	3,000	Total, \$66,000	
b. Beach Seine			
250 fathom seine	8,000		
Seine skiff (24')	3,000		
End skiff (18')	2,000		
40 hp outboards (2)	4,500		
Power block	3,000	Total, \$11,000	

## 2. Drift Gillnetting

a. Southside			
Reel and hydraulics	5,000		
200 fathoms, 150 mesh	6,000	Total, \$11,000	
b. Northside			
Reel and hydraulics	5,000		
200 fathoms, 50 mesh	4,000	Total, \$ 9,000	

## 3. Crabbing

Vessels range from a low of 50 pots or \$15,000  
to a high of 225 pots or \$67,500

- a. \$200/pot (varies, depending on species and type of construction)
- b. \$50/buoy, line per pot
- c. \$50/transportation

less expensive, amounting to about \$11,000. The skiffs are wood, powered by outboard motors, and the seine itself is shallower and therefore less costly.

For the majority of purse seine vessels which participate in the winter crab fishery, the costs of equipment varies based on the number of crab pots used. The smaller 42-foot vessels in this fishery average 50 pots, while the limit seiners use between 100 and 150. At an average cost of \$300 per pot including line, buoys, and off-season storage and transportation, the cost of crabbing equipment ranges from \$15,000 to \$45,000.

Vessels having gillnetting as a major strategy spend between \$9,000 and \$111,000 on equipment; if they are also involved in the beach seine operations, as most of them are, then an additional \$11,000 worth of equipment is required. The gillnets used on the southside of the peninsula are more expensive than those used on the northside; the difference in cost is due to the greater depth of the southside net. Due to the combination of areas fished during a season, the drift gillnetters are required to have gillnets of both depths.

Crew payments are the final factor to be considered in tracing the economics of the Sand Point vessels. In all cases, the crew members are paid on a share system, that is, prior to actually fishing, the boat owner and the crew members agree upon what share of the vessel's income will be paid to the crew as their wages. Crew shares differ from individual to individual, depending upon experience, and the shares commonly found aboard purse seine vessels differ from those aboard gillnet vessels. Taking all crew shares in aggregate, the portion of vessel income paid to the crew ranges from the 55% reported from many of the larger purse seine-hand purse seine strategy vessels to 30% for drift gillnet-beach seine strategy vessels. Set net vessels are commonly crewed by family members and no information on crew shares was disclosed.

For purse seine strategy vessels, a range of 9% to 11% of the gross vessel income was reported for individual shares. Since most vessels of this sort operate with a five-member crew, the total proportion of vessel income devoted to crew payments would reach 55%. In addition, some captains were said to deduct the costs of fuel and food for the fishing season from the vessel income before calculating the crew shares in effect diminishing the level of return to the individual crew members. As will be discussed below, large purse seine vessels in Sand Point usually have a high proportion of non-family and non-resident crew members, many

of whom have considerable experience in the salmon fishery. Crew shares are commonly discussed as part of the decision to work on a particular boat or not, and generous captains are said to be able to retain the more experienced crew members for years on end, while captains perceived as less generous will be obliged to hire new crew members each year, if not several times during a single season.

On the boats primarily oriented to drift gillnetting, a single crew member usually accompanies the captain of the boat, although two crew members occur infrequently, as does a captain who operates his vessel unassisted. Crew members are commonly family members or relatives, so crew shares play a smaller role in decisions as to which boat to work on. The range of shares reported was from 15%, which was most common, to rarer instances of 20% and even one case of a 30% share for an extremely experienced crew member.

A rough picture of the relationship between gross earnings on a vessel and the net return to the boat operator is available from estimates prepared from Commercial Fisheries Entry Commission data. These data are presented in Table 4.1.9. Although the ratios of gross to net earnings vary from year to year for each gear type, the general factors involved are exemplified in looking at the figures for 1977, the most recent year covered in this series. That year purse seine operators retained 38% of the vessel's gross earnings as their own portion, with 28% expended in operating costs, and 34.2% in payments to crew members. For drift gillnet vessels that year, operating costs absorbed a higher proportion, 45%, while payments to a crew member accounted for 23.4% of the gross vessel income; the boat operator retained 31% of the gross as his own share. The situation with set gillnets shows even higher costs and a lower rate of return to the boat owner. In 1977, set gillnet vessel operating costs amounted to 53% of the gross income of the vessel. The share paid to the crew amounted to 38.5% of the gross, leaving the operator with 8.5% of the gross vessel income as his own share.

Although there are problems with estimates of this sort, these figures conclusively demonstrate the number of competing claims upon a vessel's earnings. When average landing and earning figures are examined below, ratios of gross to net income should be kept in mind.

**Crew Composition.** The number of crew members needed for each of the strategies differs. Limit purse seine operations require the largest crews while gillnet operations require much smaller crew complements. The strategies differ, too, in the degree to which their crew members are likely to be family members, local, or non-local residents.



TABLE 4.1.9

ESTIMATES OF ALASKA PENINSULA SALMON FISHERY  
GROSS EARNINGS, COSTS AND NET EARNINGS BY GEAR TYPE  
1975 - 1977

Permit Type	1975	1976	1977
<b>Purse Seine</b>			
Average Gross	7,732	33,837	28,210
Less Costs <sup>1</sup>	3,729	5,972	7,802
Net Earnings	4,003	27,862	20,402
Crew Share (34.2% of gross)	2,645	11,575	9,650
Return to Operator	1,358	10,287	10,758
<b>Drift Gillnet</b>			
Average Gross	7,771	17,041	19,075
Less Costs <sup>1</sup>	6,396	8,267	8,675
Net Earnings	1,375	8,774	10,400
Crew Share (23.4%)	1,821	3,993	4,469
Return to Operator	-446	4,781	5,931
<b>Set Gillnet</b>			
Average Gross	3,277	6,546	10,104
Less Costs <sup>1</sup>	4,011	5,016	5,346
Net Earnings	-734	1,529	4,758
Crew Share (38.5%)	1,262	2,521	3,891
Return to Operator	-1,996	-992	-867

<sup>1</sup> Operating, fixed, and capital costs

Source: Rogers and Kreinheder 1980

Operation of a large purse seine vessel normally requires six men, or five crew members plus the captain. On the smaller purse seine boats, crews of four plus the captain are more common. Beach seine operations require fewer people, with two or three people most common although some of the larger boats retain crews of four in addition to the captain.

In contrast, boats which are primarily involved in drift gillnetting usually carry only a single crew member besides the captain. Although these boats usually have family members as crew, the fact that they must be away from the community for such extended periods of time discourages the practice of carrying several family members aboard as additional help. Set gillnetting usually requires only a single crew member in addition to the captain, but in Sand Point these vessels often carry additional family members along as crew.

From these remarks it is clear that for both forms of gillnetting, the tendency in Sand Point is to use family members or close relatives as crew members. For the larger purse seine strategy vessels, however, non-family and non-local residents make up a significant portion of the total pool of crew members. Although no census of boat crews and their residence was possible, informants readily estimated that approximately half of the all crew members working on the limit seiners were from outside the community.

Crabbing requires a smaller crew, with three men, including captain, usually operating the limit size purse seiners during the winter season. Apparently with the recent prosperity in the salmon fishery, captains have some difficulty in finding local crew members to work on the boats during the extremely strenuous and dangerous operations of the crab season. No estimates were advanced concerning the proportion of the crab boat labor force made up of local residents, but it is presumably well over half.

Landings and Earnings. Salmon landings and earnings by Sand Point fishermen have improved enormously over the period from 1975 to 1979 as detailed in Table 4.1.10. In 1975, the total salmon landings were 941,000 pounds with a value of \$350,000. By 1979, total landings were 16.7 million pounds worth \$9.5 million. In other words, roughly 16 times more salmon were landed by not quite twice as many fishermen. Moreover, the value of the salmon had increased sharply so that the total value of the 1979 harvest was slightly more than 27 times that of 1975. When the five years are averaged, Sand Point fishermen harvested an average of 8.2 million pounds of salmon worth \$3.6 million per year.

TABLE 4.1.10  
 SAND POINT TOTAL SALMON LANDINGS AND EARNINGS  
 1975 - 1979

	1975	1976	1977	1978	1979	Average
Number of Gear Operators	37	48	41	55	65	49.2
Total Landings (1,000 pounds)	941	6739	4749	12040	16740	8242
Total Earnings (\$T,000)	350	1971	1555	4759	9503	3628

The growth in landings and earnings has been relatively constant over the period in question although a slight decline was registered in 1977. The most dramatic improvement from one year to the next was in 1978 when landings were 2.5 times those of the preceeding year and earnings were three times larger. The figures for 1979 continue to show rapid growth, especially in earnings, which nearly doubled the total produced by the already dramatic increase registered in 1978. Although comparable figures are not available for 1980 and 1981 these two years continued the trend set in 1979. The Sand Point fishery is currently operating at a more productive level than that reflected by the 1975-79 average, more closely approximating the 1979 level.

The number of gear operators has generally grown from year to year as well, with a slight decline in numbers in 1977 in response to the poorer harvest prospects. Growth in landing and earnings, however, exceeded the rate of growth in the number of operators, so that average harvests have generally improved over the period.

Average individual harvests by gear types for 1975-1979 are shown in Table 4.1.11. Several interesting trends are apparent. In 1975, two strategies predominate: purse seines (Type V) and exclusive set gillnetting (Type VII). During the period from 1976 to 1978, drift gillnetting combined with hand purse seining (Type II) emerges as an important strategy, as does set gillnetting in combination with beach seining (Type III). During this period, exclusive set gillnetting appears to decline as a strategy, but in 1979 it reemerges stronger than before, so that all four strategies are represented in the final year of this series.

The trends in landings and earnings for each strategy differ somewhat although all have seen vast increases over the period. This results in part from the fact that the salmon runs and weather conditions in some years favor one gear type over the others. Set gillnet operators (Type VII) in 1977, for example, saw an improvement over the performance of the preceeding year, while all other gear types saw declines. The trend for purse seine operators (Type V) generally followed that of the fleet as a whole--decline in 1977 but otherwise sharp improvement over the entire period. Average returns per vessel of this type reached nearly a quarter of a million dollars in 1979, and 1980 and 1981 figures were probably higher yet. The newer strategies of set and drift gillnetting combined with hand purse seining registered their greatest improvements in 1976, landing nearly ten times the quantities of the preceeding year. Operators using these strategies also saw enormous growth in 1978 and 1979. Finally, the exclusive

TABLE 4.1.11

## SAND POINT FISHERMEN'S AVERAGE SALMON LANDINGS AND GROSS EARNINGS BY GEAR TYPE, 1975 - 1979

Gear Type	1975	1976	1977	1978	1979	Average
Type I: PS, DG, SG						
Gear Operators	(0)	(6)	(5)	(4)	(6)	(4.2)
Average Landings		115,209	93,125	185,435	192,878	145,503
Average Earnings		\$ 33,819	\$ 30,203	\$ 67,356	\$ 97,959	\$ 57,672
Type II: PS, DG						
Gear Operators	(2)	(8)	(5)	(11)	(11)	(7.4)
Average Landings	14,704	128,238	100,995	229,574	178,396	176,460
Average Earnings	\$ 3,900	\$ 36,786	\$ 34,884	\$ 85,769	\$ 96,401	\$ 67,038
Type III: PS, SG						
Gear Operators	(2)	(8)	(10)	(13)	(9)	(8.4)
Average Landings	12,935	122,742	98,724	168,551	215,130	145,685
Average Earnings	\$ 3,827	\$ 35,018	\$ 30,937	\$ 65,814	\$134,228	\$ 63,363
Type IV: DG, SG						
Gear Operators	(0)	(0)	(0)	(0)	(1)	(0)
Average Landings					144,702	
Average Earnings					\$167,157	
Type V: PS						
Gear Operators	(14)	(19)	(14)	(14)	(22)	(16.6)
Average Landings	50,757	196,796	179,956	381,339	480,550	257,843
Average Earnings	\$ 18,223	\$ 57,530	\$ 57,736	\$145,449	\$248,573	\$117,095
Type VI: DG						
Gear Operators	(1)	(3)	(4)	(5)	(3)	(3.2)
Average Landings	15,286	76,690	51,389	67,202	109,036	48,727
Type VII: SG						
Gear Operators	(8)	(4)	(3)	(6)	(13)	(6.8)
Average Landings	1,832	13,279	19,813	18,706	38,657	21,777
Average Earnings	\$ 737	\$ 3,897	\$ 12,842	\$ 8,635	\$ 31,397	\$ 16,191

PS-Purse Seine; DG-Drift Gillnet; SG-Set Gillnet

set gillnetting strategy registered steady, but far more modest, improvement over the entire period.

Not all fishermen share equally in the returns of the fishery. Even within a single gear type, some individuals consistently do better than others. The extremes of individual harvests give an indication of the wide range of individual performance. The lowest recorded individual harvest was 80 pounds landed in 1975, while the largest harvest that year was 128,000 pounds. The highest reported harvest occurred in 1979 when one permit holder landed 1.1 million pounds of salmon, an event which is still very much alive in the folklore of the Sand Point fishermen. During that same year, the lowest recorded harvest was 1,600 pounds.

The more important structure of variation in the landings and earnings picture is found in comparing the scale of the harvest of purse seines against the other gear types. The magnitude of the differences in productivity between gear types can be seen by referring again to the average harvests by gear types, displayed in Table 4.1.11. Using averages for the five-year period, purse seine vessels (Type V) landed 1.57 times as many pounds of salmon as drift gillnet-beach seine operators (Type II), and 1.76 times as much as set gillnet-beach seine operators (Type III). Purse seine operators landed 6.7 times the quantity taken by the exclusive set gillnet strategy operators.

When the trend in the relation between the various gear types is plotted over the five-year period, it emerges that following seemingly anomalous year in 1975, the purse seine vessels have consistently increased the distance between their average landings and those of the other strategies. In 1979, the average purse seine vessel harvest (Type V) was 2.69 more than the average drift gillnet-beach seine vessel (Type II) and 2.23 more than the average set gillnet-beach seine vessel (Type III). The exclusive set gillnet vessels (Type VII) remained far behind, with less than one-twelfth the harvest of the purse seine vessels.

Crab landings and earnings from 1975 to 1979, displayed in Table 4.1.12, present a more complicated picture. Viewed at first in aggregate, the Sand Point crab fishery has seen a steady rise in the number of gear operators, from 24 in 1975 to 33 in 1979. The total crab landings have shown a more varied pattern, with a sharp increase through 1977 when seven million pounds were landed, followed by a slight decline to 6.8 million pounds in 1979. Interestingly, the value of crab has increased sharply and steadily from a total value of \$1.1 million in 1975 to \$6.3 million in 1979.

TABLE 4.1.12

## SAND POINT CRAB HARVEST STATISTICS, 1975-1979

	1975	1976	1977	1978	1979	Average
<b>Crab Licenses by Vessel Length:</b>						
over 50 feet	4	8	12	16	21	12
under 50 feet	24	30	36	35	37	32
TOTAL	29	38	48	51	58	44
<b>Fishermen Making Crab Landings:</b>						
Total Landings (1,000 pounds)	4673	6314	7055	6643	6816	6300
Total Earnings (\$1,000)	1112	1718	3615	5819	6296	3712
<b>Average Landings (1,000 pounds)</b>						
Average Landings (1,000 pounds)	195	242	252	208	207	220.2
<b>Average Earnings (\$1,000)</b>						
Average Earnings (\$1,000)	46	66	129	182	191	122.8
<b>Range of Landings (1,000 pounds)</b>						
Low	33.5	16.1	6.9	3.5	3.9	12.8
High	1097	979	1258	1084	869	1057
Average	195	242	252	208	207	221
<b>Range of Earnings (\$1,000)</b>						
Low	8.5	5.9	2.2	1.6	3.9	4.4
High	231	361	769	1184	786	666
Average	46	66	129	182	191	123

Source: Commercial Fisheries Entry Commission

From the perspective of the individual gear operators, the average landing and earning figures show similar trends. Average landings rose from 195,000 pounds in 1975 to 252,000 pounds in 1977 and then declined to 207,000 pounds in 1979. The strong increase in value, however, meant that the average earnings per gear operator have risen steadily from \$46,000 in 1975 to \$191,000 in 1979.

As with salmon, the range of individual variation is considerable, as can be seen in the following example. In 1977, the year in which the range was greatest, the smallest recorded harvest was 3,500 pounds for a value of \$1,600, while the largest recorded harvest was 1.08 million pounds for a value of \$1.18 million.

#### Sand Point Developmental Trends

**Vessels.** The most important developmental trend concerning vessels in Sand Point is the dramatic move to upgrade the technical efficiency of the fleet. This is seen particularly clearly in the case of the purse seine strategy vessels, among which fully half of the boats were manufactured in the last three years. The new 58-foot boats have considerably greater hold capacity than the older 42-foot vessels. The difference in size is also extremely important in the winter crab fishery because the larger boats are more stable and can range further during this difficult winter fishery.

Among the other strategies, the same trend is found; however, there has been more technical upgrading among the vessels using drift gillnets than among those using set gillnets. This is reflected in the fact that half of the drift gillnet boats have been built since 1979 while the median year of construction for the set net boats is 1969.

Another important improvement in the technical efficiency of the vessels results from the improved electronic equipment now widely found onboard. Radio communications were improved with Single Side Band (SSB) and Very High Frequency (VHF) radios supplementing CB radios. Radar, however, probably made an equal, if not more important contribution. With the common occurrence of fog throughout the waters south of the Alaska Peninsula, the security offered by radar allows the vessels to fish on days when previously they would have remained in the harbor. The more recent installation of depth finders, and in some cases the more sophisticated models referred to as fish finders, has also contributed to the success of the fleet.



In addition to these technical improvements, the total size of the fleet has grown. From 37 salmon gear operators making landings in 1975, the total grew to 65 in 1979. Strictly comparable figures are not available for 1980 and 1981, but the census of vessels conducted for this report during the summer of 1981 indicated that 90 vessels made up the current Sand Point fleet. The rate of growth, then, has been extremely high over the past decade, with especially pronounced growth in the last three years. Since, in theory, the limited entry program set a ceiling on the number of boats operating in the salmon fishery, it must be pointed out that this increase entailed changes in the patterns of permit holding, described below.

**Areas.** During the last decade the areas exploited by Sand Point vessels have expanded considerably. Prior to this expansion, the Sand Point fleet never ventured west of Cape Tolstoi, whereas now, for both the deep water purse seine and the drift gillnet vessels, the South Unimak fishery provides a major proportion of their total season. Similarly, participation in the northside fishery outside of Port Moller dates back to only the last decade, and participation by a small number of boats in a fishery inside of Izembeck Lagoon is even more recent.

Anecdotally, boat captains speak of the need to "prospect" new areas on the outside of the Shumagin Islands, for example. They feel that perhaps too many vessels are lining up at Red Bluff on Popov Island, but the risks involved in trying an entirely new area are great--missing the bulk of the run by even a few days can destroy a boat's season. "Prospecting," then, is more widely admired as a potential, than as an actual, undertaking.

**Gear Types.** Several important trends can be identified concerning the importance of various gear types within the fleet as a whole. On the one hand, the fleet has diversified, since in 1975 two major strategies, purse seining and exclusive set gillnetting, were pursued, while by 1979 four major strategies are found. Exclusive set gillnetting declined in importance after 1975 although in 1979 it reemerged as a major strategy. Drift gillnetting, usually combined with hand purse seining, emerged as an important strategy in 1976 when Sand Point vessels began to participate in the Port Moller fishery. Set gillnetting combined with beach seining also emerged during this period.

On the other hand, the increasing importance of the purse seine strategy, relative to all others combined, constitutes a

trend toward specialization. This strategy is pursued by approximately half of the Sand Point fleet, but with the dramatic improvements in the technological scale and efficiency of the new larger boats, this gear type has become responsible for an ever-larger portion of the total salmon harvest by Sand Point vessels.

Gear type patterns interact with patterns of limited entry permit holding, as will be discussed below. For the present, it is important to note that the rise of the purse seine strategy has the effect of freeing some permits for re-sale in the community. Similarly, the reemergence of the exclusive set gillnetting strategy might free permits. In both instances, only a single permit is required to pursue the strategy, so that operators with more than a single permit are able to sell the "surplus" permit(s). The reorganization of permits effected in this way is presumably the source of permits for new vessels in the expansion of the Sand Point fleet since there is no evidence of the purchase of permits from fishermen from other communities.

In Sand Point the trend toward specialization and single permit holding is offset by the prevalence of strategies combining gear types requiring two permits. For the strategies combining set and drift gillnetting with beach seines, two permits are required.

Permits. There is a trend toward breaking up patterns of multiple permit holding, at least on the part of purse seine and exclusive set net strategy operators. According to informants, when these "surplus" permits are sold, few are sold out of the community so, in effect, they become the means by which additional boats enter the Sand Point salmon fleet.

Although people were hesitant to discuss specific instances, in some cases multiple permit holders have temporarily transferred permits for a part of the season to a son, for example, who in turn works on another boat for that part of the season. As a result, a permit which was previously used for only part of the season to supplement the operator's principal gear type, is fished for the entire season.

From these examples it is clear that the historical pattern of multiple gear type use in Sand Point gave rise to multiple permit holdings which, when broken up, allow for a sizeable increase in the number of vessels fishing throughout the season. Thus far, happily, this has not led to overexploitation of the salmon stocks, the original cause of the turn to a limited entry program.

Species. The Sand Point fishery has, for most of its nearly century-long existence, tended to concentrate on a single fishery at a time. This was particularly true of the early period when cod was the principal species sought. The disruptions of the Depression resulted in a dramatic decline in demand for cod and a crash in prices paid to the fishermen, so the introduction of the modern salmon fishery during this decade resulted in the replacement of cod by salmon as the major fishery in Sand Point.

After this point there was a tendency for additional species to play a subsidiary role to salmon in the operations of the fleet, but these subsidiary species have been particularly prone to overexploitation and have not challenged the role played by salmon. Halibut was added to the species sought by this fleet in the 1940s but played only a minor role in 1981. Crab, on the other hand, was added in the 1950s and has played an important role since. During the late 1970s, however, two conflicting trends emerged: the number of boats involved in the crab fishery grew as did the total value of the crab landed, but total landings began to decline as the stocks reached a point of overexploitation.

Shrimp are a similar example. First sought seriously by Sand Point boats in the early 1960s, the shrimp stocks or Pavlov Bay and elsewhere south of the Alaska Peninsula were quickly overexploited.

Bottomfish, notably cod, are currently being proposed as another opportunity for diversification in the Sand Point fleet. Under the legislation extending U.S. territorial limits to 200 miles offshore, a vacuum was opened in the bottomfishery off Alaska, and the State of Alaska has instituted many efforts to encourage local fishermen to partially fill that void.

Two factors operate against this particular diversification. Perhaps most important is the current prosperity of the salmon fishery, for with returns at the level of 1979-81, there is simply very little incentive for the Sand Point vessels to undertake the new demands of another fishery. Secondly, the bottomfishery is unsuitable for vessels the scale of those at Sand Point. Bottomfish have a low unit price so that large volumes must be landed to operate profitably. In the case of cod, the value of the landings depends on the quality of early processing, and the techniques required to produce top price cod are simply not known by many of the Sand Point fishermen. In short, while a handful of Sand Point fishermen expressed interest in the

demonstration of an electronic jigger for cod fishing, and while several fishermen briefly landed cod during the last year, there is little likelihood of any significant participation in this fishery by the current Sand Point fleet in the near future.

It remains possible, nonetheless, that new vessels, larger in scale and more specialized technologically in the bottomfishery, would make Sand Point their home port. Some of the planning scenarios used by the City of Sand Point are based upon this eventuality.

Summary. In short, the Sand Point fishery has experienced substantial intensification in the salmon fishery over the past five years. Although the number of limited entry permits in this community has remained constant, the technical efficiency of the units has risen sharply as has the number of units of gear being operated.

The fishery has also been characterized by expansion in the geographical range commonly exploited. The extension of range to the South Unimak region and more recently to the northside of the Alaska Peninsula are the principal examples.

The fishery has not seen diversification in the number of species sought. Rather, the tendency has been toward concentration on the salmon fishery. Crab, the principal subsidiary species now sought by Sand Point fishermen, is currently experiencing a decline in stock strength. Shrimp and halibut, other potential subsidiary species, are also experiencing low stock levels at present. Finally, there has been little indication of a turn to participation in the bottomfishery.

#### Sand Point Fisheries: Commercial Processing

History. Although Sand Point was originally founded as a commercial center to supply the cod fishery, it was not long before seafood processing was initiated as well. Early in the 20th Century, cod salteries were located at both Sand Point and nearby Pirate Cove. In the 1930s the Alaska Pacific Salmon Company began to process salmon in Sand Point and in the 1940s the Aleutian Cold Storage Company was founded, originally to process halibut. These early enterprises have changed a great deal since their beginning, and new processing concerns have come to play a greater role in contemporary Sand Point.

The original Alaska Pacific Salmon facility, located on a spit across the bay from the main part of town near the current airport, was sold to the New England Fish Company (NEFCO) in about 1960. NEFCO never actually processed salmon

at this site but used it instead as a "fish camp" or buying station. When NEFCO went bankrupt in 1980, its assets were purchased by Ocean Beauty Alaska, a subsidiary of the Sealaska Corporation. Under the new ownership, the same sort of operation continues.

The Aleutian Cold Storage plant was built in 1946 in the center of town on the site of the original store and cod saltery. Originally intended for halibut processing, this plant has seen several changes of ownership and considerable diversification in the species of seafood handled. Wakefield Fisheries leased the plant during 1950 and turned to processing king crab. By 1966, however, when Wakefield Fisheries purchased the plant, king crab stocks were declining so rapidly that Tanner crab were added to the operations. In 1969 Hunt Wesson purchased the plant and in 1972 shrimp were added to the species processed. This particular species was important for only a brief period as the stocks were rapidly depleted under the pressure of commercial harvest. In 1976 the plant was purchased by AMFAC/Pacific Pearl. The new management added salmon processing to the operation in 1980. Finally, in 1981 the plant was sold to Pelican Cold Storage and the original name of Aleutian Cold Storage was reinstated.

A third processing operation has been active in Sand Point since the early 1960s when Peter Pan established a buying station on the spit near the NEFCO facility now owned by Ocean Beauty Alaska. Although originally operating out of old, dilapidated facilities, Peter Pan completed construction in 1981 of a new 12,000 square-foot building in which fishermen's gear is stored, and extra parts, equipment, and administrative offices are housed.

**Current Operations.** Two very distinct types of operations are currently run by the three processing firms found at Sand Point. Ocean Beauty and Peter Pan operate seasonal buying stations. The managers at these stations arrange for the purchase of salmon from Sand Point fishermen, normally in relationships which last for many years. In return for commitments to sell salmon throughout the season, the station provides a number of services to its fishermen, notably repairs and off-season gear storage. In contrast, the Aleutian Cold Storage plant actually processes the seafood it purchases in the community. As might be expected, these two types of facilities differ considerably in the scale of their operations in Sand Point. They also differ in the kinds of relations they establish with the fishermen.

The fish camps are actually outstations of canneries in the region from which they purchase fish. As in the past, these canneries emphasize the establishment of longterm relations with the fishermen. In return for a secure market and a variety of services, the fishermen make a commitment to sell exclusively to a particular processor. Aleutian Cold Storage, on the other hand, has only recently expanded into the purchase and processing of salmon, operating as a cash buyer. Aleutian Cold Storage provides no services to fishermen and makes no long term commitment to provide a market but pays a higher price for the salmon. The tradeoff, then, is security or higher price for the fish.

The Peter Pan and Ocean Beauty buying stations begin operations sometime in May each year when barges arrive from Seattle bringing most of the personnel, spare parts, and other materials needed for the operation. Prior to the start of fishing, the stations sign on fishermen for the coming season and assist in the preparation and repair of the fishing boats. In some instances funds will be advanced to a fisherman for the purchase of new equipment, with the amount deducted later from the payment due the fisherman.

During the season itself, the managers of the buying stations arrange for pickup and purchase of the fish on the grounds. During the June red salmon runs in the South Unimak area, Ocean Beauty and Peter Pan each direct their own tender vessels on the grounds. For the large southside pink salmon runs in July and August, the Peter Pan manager directs the tender movements for both companies. The fishermen on the grounds listen on their radios each evening at an arranged time to hear about the current tender locations.

The stations also provide emergency repairs and spare parts throughout the season and for this purpose they keep mechanical shops and parts warehouses in Sand Point. In addition, among the personnel at each camp are mechanics and carpenters as well as the so-called beachmen who help with miscellaneous labor tasks.

The bookkeeping staff at each of the fish camps keeps track of the purchases from each fisherman as well as any draws for repairs, parts, or advance funds. Partial payment is made to the fishermen during the season with an additional portion due late in the fall after the market conditions for the year's pack are known.

As the season draws to a close, the stations apportion their storage space to the fishermen for off-season storage of skiffs, seines, nets, and other equipment. The majority of

the buying station personnel then leave with the barges in September to return to Seattle.

The current operations at Aleutian Cold Storage include the preparation of several species of frozen seafood, notably king crab, Tanner crab, and salmon. Halibut are also processed. The plant includes two salmon processing lines, referred to as "slime lines." In addition, machinery for processing shellfish is found although this was not in operation during the time of this study. Shrimp processing machinery is also found, but it has been idle for several years. Finally, the plant has the necessary compressors, blast freezers, and storage freezers.

The present combination of species permits the cold storage plant to operate year-round although the workforce required during the winter crab season is between half and two-thirds of that required in the summer for salmon.

Employment Patterns and Working Conditions. As might be expected, the employment patterns and working conditions differ considerably between the two types of processor operations in Sand Point. The simpler case of the two fish camps will be discussed before considering the picture in the cold storage plant.

The work force at Ocean Beauty Alaska is made up of six semi-skilled workers (beachmen and kitchen/laundry personnel), three skilled tradesmen (carpentry and mechanical), and two administrative staff. Two of these people are local Sand Point residents and the rest come from Seattle for the season each year. The staff is very stable with virtually everyone returning for years on end, even through the uncertainty of the NEFCO bankruptcy and transition to ownership by Ocean Beauty Alaska.

Peter Pan has a total workforce of ten in Sand Point--three general laborers, three skilled tradesmen, two secretaries, and two administrators. One of the secretaries is a local resident and the remainder come to Sand Point for the season from the Seattle area. This staff, too, is extremely stable, with a number of people who have worked at this operation for more than ten years.

As concerns the work conditions at the two fish camps, it is clear that the nature of the operations do not impose extraordinary burdens upon the staff, despite the fact that during the heat of the salmon runs every job must be accomplished quickly and efficiently. The long terms of service among the workforce suggest that the conditions of

work are quite suitable and one is quickly struck by the sense of camaraderie evident among staff at mealtimes in the mess hall located on the buying station grounds.

At the Aleutian Cold Storage plant, by far the largest proportion of the workforce consists of seafood processors who are referred to as the "bunkhouse" employees because most of these workers reside in the ACS bunkhouse during their stay in Sand Point. The size of the processing workforce changes with the season and species being processed. During the summer salmon season this workforce reaches its peak--111 in July 1981, whereas in January to March 1981, the peak of crab season, only 65 to 85 processors were employed.

In addition, there is a small group of miscellaneous hourly employees filling positions such as engine room assistant, quality control technician, and kitchen and laundry staff. These positions numbered 12 in March 1981 and will probably remain necessary throughout the year. Half of these positions are part-time.

Finally, 13 salaried personnel fill year-round positions in management, bookkeeping, quality control, and plant engineering. The staff in these positions generally reside in the small houses owned by ACS in the center of town. This portion of the workforce is considerably more stable than the processing portion, and while specific figures were not available, these people are older on average and are more likely to have their families with them in Sand Point. Half the people in this group were originally hired in Sand Point and in March 1982 the average length of their employment with ACS was 32.5 months compared to 14.8 months among the processing crew.

The processing workforce is predominantly non-local. Only a handful of local people work in this capacity and then only in winter. In March 1981 only 12.5% (eight individuals) of the reduced winter processing crew was made up of local residents. In July 1981, when salmon processing required a crew of 111, only a single processing employee was from the local community. Of the eight local residents reflected in the above figures, two were males and six were females.

The processing workforce is about one-third women and two-thirds men. These employees also tend to be young, although there are a few older people who work in the processing jobs. The median age for male processing employees is 26 while that of the females is 23.

A final characteristic of the processing workforce is the



tendency toward rapid turnover. Although precise figures for average length of employment were not available, a partial measure was possible. For the workforce in March 1981, 61% had worked for six months or less, and this probably overstates the average length of employment since many of the shorter-term summer employees are not included in figures taken in March.

Wages paid the processing workers range from \$5.15 per hour to start, to \$6.20 per hour maximum. In addition, after 90 days employment the company pays the cost of airfare to Sand Point. Since most of the employees come from Seattle and the airfare is substantial, this operates as a major incentive to "see the job through" the initial three months. After 180 days employment, the company pays for the return trip, and for employees who remain for an entire year, ACS pays for a round trip home and back to Sand Point. The bunkhouse residents are charged \$7.00 per day for room and board. Most employees probably gross less than \$5,000 for the summer, even when overtime is taken into account.

There are several different roles among the processing workers. A small number of people handle the dock operation, loading and transporting totes of salmon to the slime lines where crews numbering as many as 20 persons gut and clean the fish. From the lines the fish are loaded into the blast freezers and from there into the drive-in freezers. Women tend to be concentrated in the slime line part of the operation and rarely do they operate the fork lifts or other machinery.

As might be imagined, the work itself can be tedious and demanding, especially as extra hours are assigned during the height of the season. The coffee breaks at mid-morning and mid-afternoon are filled with conversations about who had recently quit, and observations about how "you gotta be crazy" to remain in jobs of this sort. These views are, perhaps, not universally shared, but they certainly play a large role in the self-image of many of the processing employees.

There was little open discussion of tensions between management and the workers: the workers seemed resigned to hard work and long hours until they left, and the managers seemed resigned to a consistently high rate of turnover among this sector of the workforce.

In sum, several general features of processing employment patterns in Sand Point can be identified. While the total number of positions is high, approximately 150, about half of these are summer only. More importantly, while processing

provides a significant portion of all employment in Sand Point, local residents rarely seek this form of employment. This does not reflect barriers to local hire on the part of the processors, but rather the fact that processing work is low status work, especially for younger males whose peers would be working on fishing boats. Moreover, during the summer when many processing jobs become open, the local community is almost exclusively focused on the salmon fishery and once the fishing pay begins to flow, even non-fishing members of the families are unlikely to take up processing jobs.

**Community-Processor Relations.** Relations between the processors and the Sand Point community lack the all-pervasive quality found in many rural communities in which canneries play a dominant role. Although there are clear historic reasons for this, in the contemporary context good community relations for the processors is helped immeasurably by the fact that the local managers are highly respected individuals who are seen as accessible and responsive to most community concerns. There are some suspicions about the intentions of higher management from time to time, but the personal charisma of the local managers does much to create a positive climate.

An example of the personalistic quality in community-processor relations can be seen in the way in which complaints about loud parties by bunkhouse staff were handled. The bunkhouse abuts a trailer court and excessively loud music one year became a great disturbance to these neighbors. When the plant manager was approached about this, he quickly alleviated the problem.

On the level of day-to-day interactions, then, the community-processor relations are quite positive. There are, however, a number of more significant issues on which sharper frictions are found. Several of these derive from uncertainties about the intentions of the current Aleutian Cold Storage ownership to follow through with efforts to divest the plant of its nonprocessing functions. Historically, the ACS plant is heir to the holdings of the original commercial operation on which Sand Point was founded. As a result, until 1960 it was the sole commercial outlet in the community and the owner of much of the land in the center of town. In addition, it was, and is, the sole source of electrical power for the community and the sole fuel sales outlet. The ACS dock is the only large dock in the community although a new city-owned dock was in the final planning stages in 1981. The decision was made in the early 1960s to divest of some of the extraneous functions, a move applauded in the community as a means of spreading the economic activity

among more people. The commercial store was sold and a certain amount of land in the center of town was made available for house lots. By the late 1970s, plans were underway for sale of the electricity generating operation and the fuel concession. However, under the most recent ownership, these plans appear to have been suspended, to the chagrin of many people in the community.

As in other processing communities, there is disagreement in Sand Point over the application of the city's sales tax to sales of fish to the processor. All references to this problem by processing company administrators were voiced in a lighthearted way, and it was unclear how important this area of contention is in Sand Point.

In sum, the community-processor relations in Sand Point may be seen as having interpersonal and institutional components. In the former context, the personal charisma of the processing operation managers creates a positive climate, despite the fact that in the domain of institutional relations there are several issues which divide the interests of the community from those of the processor.

**Developmental Trends.** Several developmental trends can be identified in the processing sector although, in the most important of these, the pricing structure of the salmon fishery, the outcome of current uncertainties cannot be predicted. As noted above, the rise in importance of cash buyers and floating processors is sure to have far-reaching effects on the price structure of the Alaska Peninsula salmon fishery. However, as yet there is no indication how far the shift to cash buyers and away from long-term purchase agreements with the shore-based processors will go before stabilizing. It is conceivable that Aleutian Cold Storage, since its salmon operations are oriented to the more healthy fresh-frozen market, will expand its purchases and hire a larger summer salmon processing crew.

As concerns the possibilities for diversification in the species processed in Sand Point, the prognosis is not positive. Shrimp, king, and Tanner crab are currently at population levels which do not permit any hope for expansion of operations. Bottomfish, while abundant, are accompanied by market conditions which make any diversification into these species quite unlikely in the near future. Halibut may provide for some expansion but it will likely be very limited.

The patterns of processing employment, characterized by a high degree of seasonal variation in levels of employment and

a low degree of participation by local residents, are unlikely to change. Current working conditions and wage levels are likely to continue and this workforce will continue to see a high rate of turnover.

#### Sand Point: Other Commercial Activity

**Government.** The City of Sand Point provides a number of municipal services including water and sewer, fire protection, roads, the harbor, and the Sand Point Health Clinic. The State of Alaska employs a state trooper, two wildlife biologists, and a seasonal assistant to the biologists. Taken together, these public service positions employ 16 people in Sand Point. In addition, the City of Sand Point, in conjunction with the City of King Cove, employs a city manager and a planner, both of whom are located in Anchorage.

**Education.** Another major source of employment in Sand Point is found in the independent Sand Point School District. The district operates a K-12 school in Sand Point with plans for a new high school in the final planning stages. The district employs 18 people, all but a few in teaching positions.

**Private Business.** The private sector is well developed in Sand Point, particularly when compared with other villages in the region. There are private electrical and fuel utilities, a very large commercial enterprise, and a number of small businesses.

Aleutian Cold Storage provides fuel and electricity to the community, an Anchorage-based enterprise provides phone service, and a local entrepreneur sells propane. In addition, one local man is employed servicing the electrical lines. These enterprises employ five persons and generated 1980 taxable gross receipts of nearly \$2.6 million, of which virtually all was derived from the electricity and fuel sales by Aleutian Cold Storage.

The largest commercial sales outlet in Sand Point is the Aleutian Commercial Store located in the center of town. This store has its roots in the former "cannery store" operated through the years by the various owners of the cold storage plant. In 1972 this operation was sold to a former employee of the cold storage plant. In 1978 Aleutian Commercial moved into its present building which, with the 1981 expansion, now totals nearly 15,000 square-feet. The store carries an extensive selection of groceries, liquor, and hardware. The new addition now houses a clothing store and the first bank in Sand Point opened its doors there in the fall of 1981.

TABLE 4.1.13  
SAND POINT NON-FISHERY EMPLOYMENT, 1981

Public Sector	
Federal, State, Municipal	16
Education	18
Commercial Sector	
Merchandise	23
Electricity, Fuel, Propane	5
Accommodation, Dining, Tavern	7
Transportation	7
Construction	4
	<hr/>
Total	81

is 1 to 6.7, whereas the national average is 1 primary sector position for every 1.5 secondary positions. From this comparison then, the Comprehensive Plan suggests that the commercial sector is not fully developed in Sand Point. The comparison is not entirely appropriate inasmuch as a small isolated community, such as Sand Point, will always be more directly dependent upon primary production than larger, more diversified communities. Nevertheless, this assessment in the Comprehensive Plan suggests the degree to which many local people assume a high potential for growth in the commercial sector.

### Sand Point Subsistence

The local production of food remains an important activity in Sand Point which has perhaps been diminished but certainly not replaced by the recent influx of large cash earnings from the prosperous salmon fishery. The majority of Sand Point families continue to produce a substantial portion of their food from local resources, among which caribou and fish are probably the most important. While most families produce these foods for their own use, some subsistence foods are shared, particularly with older relatives.

Caribou are hunted in the bays along the indented coast of the "mainland" as the Alaska Peninsula is locally known. Caribou are taken throughout the fall and winter but the main part of this activity takes place in September when small groups of men take a boat to scout the bays, taking caribou as they venture down to the water's edge. There is apparently little hunting inland. These hunting parties are made up males who are of similar age but not necessarily closely related by kinship. Informants characterized these groups as "just friends." While there is variation from one family to the next in the number of caribou taken and consumed, it was suggested that virtually all families had some caribou during the year and that more subsistence-oriented families consume as many as four animals during the year.

Fish taken for home consumption are the next most important subsistence resource. The majority of these are salmon and most are taken incidental to the commercial harvest. In addition, several Sand Point residents place set gillnets in the water near the community in the late summer for subsistence fish. These fish are preserved in a variety of ways--some are smoked, some dried, some salted, and some pickled. Nowadays most are simply frozen. As for the quantities taken, figures from the Subsistence Permits issued by the Alaska Department of Fish and Game must be taken with

caution for, by the biologists' admission, they probably represent less than half of the number of families actually harvesting salmon for subsistence purposes. As indicated in Table 4.1.14, the number of families reporting varies a great deal from year to year as does the level of the reported harvest. One factor, however, remains relatively stable; the families' reports represent an average harvest of 68 salmon per family. This corresponds roughly with the 50 fish per family suggested by several informants as the average. There is, however, some variation in families' harvests, for one informant suggested that many families preserve as many as 200 fish for home consumption.

Ducks and geese are a highly prized food resource and considerable expense and effort are devoted to this particular hunt. Some are taken locally on neighboring Unga Island and on the mainland, particularly in Left Hand Bay. Some Sand Point residents fly out to Izembeck Lagoon and a smaller number go to Nelson Lagoon for this harvest.

Smaller quantities of many other species also play a role in the annual round of subsistence foods. The diversity of foods and the availability at different times of the year give these foods an importance beyond the simple poundage involved. Seagull eggs, for example, are highly prized and people take boats to Unga Island to harvest them. Similarly, shellfish are harvested from the beaches on Popof and other nearby islands. Both king and Tanner crab are also taken for home use throughout the winter season.

Wild vegetables are also harvested for home use, with berries by far the most important species. In the late summer, family outings to pick berries are a very common event. Pachouskies are another wild vegetable which is harvested although in much smaller quantities now than formerly.

Sea mammals are apparently no longer used for food in Sand Point to any significant degree. When asked, informants suggested that there remain only a handful of older people who value seal oil as a condiment for dried fish.

Dependence on locally-produced foodstuffs varies a great deal within Sand Point. Informants agree, however, that the recent prosperity in the salmon fishery has contributed to a general decline in the intensity of subsistence production. While the per capita figures on income from the fishery are extremely high, this income is not evenly distributed and some families continue to rely heavily upon local-produced foodstuffs. Beyond the strict economic importance of

TABLE 4.1.14

SUBSISTENCE HARVESTS OF SALMON IN THE  
SOUTH PENINSULA DISTRICT  
AS REPORTED ON SUBSISTENCE PERMITS RETURNED

	Number of Permits	Kings	Reds	Pinks	Cohos	Chums	Total
1975 <sup>1</sup>	61	4	1367	1662	676	818	4527
1976	-	0	409	350	338	208	1305
1979	55	50	1550	500	1150	350	3600
1980	85	100	2400	900	1800	500	5700

<sup>1</sup> Data collection efforts in 1977 and 1978 were minimal resulting in a very low rate of permits returned.

Source: Alaska Department of Fish and Game 1980a



subsistence harvest, it is important to note the cultural importance. For many Sand Point residents, and particularly among the older people, harvesting and preparing local foodstuffs is a major form of continuity with their heritage, and one which they resist giving up.

#### 4.1.4 Sand Point Social and Political Organization

##### Social Organization

**Kinship.** One important organizational feature of most small-scale societies is kinship, the system by which relations between individuals are recognized on the basis of descent and marriage. While societies differ markedly in the degree to which kinship provides a structured set of rules directing economic, social, and political action, kinship features are commonly important in each of these domains.

Contemporary kinship practices in Sand Point show a great deal of influence from the relatively standardized North American norms. Kinship is reckoned patrilineally, or through the father's line, and relatives are recognized bilaterally, or in both the mother's and the father's lines. The nuclear family tends to be the most common residential unit although until recently a shortage of housing contributed to the occurrence of extended family households. While lineages are recognized by a common surname, they do not form corporate groups; residence, for example, does not appear to be influenced by patrilineage membership and property is held by individual members, not for the lineage as a whole. The same is true of the communities of origin, the three villages from which the present Sand Point population is drawn, with one notable exception. Under the terms of ANCSA, three village corporations hold property in the name of members of the former villages of Sanak and Unga as well as contemporary Sand Point.

The lineage structure of the Sand Point population is strongly influenced by the fact that several former villages contributed to the current population. Of 137 households for which information was available, 90 are headed by Aleuts. Among the 47 households headed by a non-Aleut are included approximately half a dozen households in which an Aleut woman has married a non-Aleut man. Of the 40 households for which information was not available, it is likely that most of these are headed by non-Aleuts. Information regarding the village of origin was available for 20 lineages representing 64 households. Unga was the most common origin, with 10 of the lineages originally residing in this village, and an additional two in neighboring Squaw Harbor on the same island.

Sanak was originally home for five of the lineages while three were originally from Sand Point, Wosnesenski Island, and Belkofski.

Most lineages in Sand Point are represented by only a small number of households and only four lineages are represented by more than four households. This suggests that no lineage is likely to dominate affairs by reason of size alone. The lineage size of all 43 Aleut lineages represented in Sand Point is shown in Table 4.1.15.

Marriages create linkages between lineages in a village and between villages. Although it was not possible to gather comprehensive information on this topic, it appears that in Sand Point the vast majority of marriages involve local partners. In the present senior generation, most of whom moved to Sand Point during their early adulthood, virtually all marriages were with people either from the villages of origin or with a partner met in Sand Point itself. This means that in the senior generation, there are very few linkages to other villages by marriage. The same holds true for the junior generation just now entering marriageable age--most marriages are between partners both of whom are from Sand Point. This pattern in the junior generation may be changing as several informants commented on the fact that high school activities are now creating many occasions for interaction between the young people of the villages in the region. They anticipate more marriages with partners from outside Sand Point in the future. However, at present marriages do not link Sand Point in a network with other villages in the region.

The importance of kinship in organizing several aspects of the fishery is worth noting. The gillnet vessels, in particular are almost always crewed exclusively by family members and often the entire family of the owner accompanies the vessel out to fish, despite the fact that only one crew member is required to assist the owner in handling the net. The larger purse seine boats inevitably include non-kinsmen as crew, even if the captains often take their sons aboard as crew members. An interesting variation in this pattern was noted by a small number of informants. Some captains apparently prefer that their sons learn to fish on the boats of their colleagues rather than on their own boats. The young men, if it is said, are more likely to listen to a captain who is not their father and, hence, to learn the necessary skills and discipline more quickly. It was not possible to establish how widespread this pattern is, and only a handful of anecdotal examples were cited.

TABLE 4.1.15  
SAND POINT HOUSEHOLDS BY LINEAGE

<u>Number of Lineages</u>	<u>Number of Households</u>
22	1
6	2
9	3
2	4
3	5
1	6

Kinship also organizes a number of subsistence production activities. Subsistence fishing with gillnets is generally a family operation although this is not true of subsistence fish taken incidental to the catch aboard a purse seine vessel. Similarly, berry-picking is a family-based activity. Other subsistence harvest activities are conducted by small groups of same age male friends.

From the accounts given of political action in Sand Point, it appears that occupation and length of residence in Sand Point are the major factors in political mobilization rather than kinship per se. The few larger lineages do not hold the major, nor the majority, of political positions and the relatively even distribution of lineage size would mitigate against lineage size serving as the major means of organizing political strength.

Finally, friendship is another form of organization for many types of activities. Most notably, leisure time is often spent in the company of friends of the same sex and approximately the same age. This is especially true of young, unmarried adult males. As noted above, these groups are also commonly those which go across to the mainland to hunt caribou. Among females, visiting in each others' homes appears to be the major form of leisure activity.

In short, while the kinship system in Sand Point lacks the clearcut rules and formality associated with many small-scale societies, it remains an important, if subtle, feature of many aspects of daily life.

**Voluntary Organizations.** Voluntary organizations often play an important role among the range of institutions in a community. Although they lack any formal authority, these organizations often provide regular occasions in which influential community members interact informally with political figures. This suggests that the Lions Club and the Women's Club in Sand Point represent important mechanisms in community decision-making.

The Sand Point Lions Club is an affiliate of the national and international fraternal and service organization of the same name. Formed in late 1979 at the initiative of several businessmen in Sand Point, the club was intended to become a "bridge to get everyone to meet." In particular, the initiators felt that in Sand Point various occupational groups tended to socialize only within their group and to rarely establish links across groups. School personnel, businessmen, and government personnel were seen as circulating in a relatively enclosed social universe while fishermen were seen

as interacting only with each other. The founders, then, had in mind a club that would provide a mechanism of integrating these groups through good-natured socializing.

There is also an interest in promoting better inter-ethnic relations behind this, although no one ever used these terms explicitly. Designations in terms of occupational groups often serves in Sand Point as a euphemistic reference to ethnicity. Fishermen are predominantly Aleut while all the other groups are predominantly drawn from the Whites who have recently moved to Sand Point.

The charter membership of the Lions Club was approximately 20, of which half were Aleuts. The club has now grown to about 50 members and the proportion of Aleut members has declined.

At present the club meets irregularly, in part due to the lack of a suitable meeting facility. These meetings are characterized as social get-togethers and occasionally include the spouses of the members. The meetings are also the occasion for planning the club's service activities. Since being founded a little over a year ago, the Lions have been responsible for the construction of a foot bridge from the main part of town to the new small boat harbor, and have assisted in the renovation of the school play yard. This year the Lions Club sponsored the first community-wide 4th of July celebration. About 1,000 people attended the festivities held throughout the day on the large parking area behind the harbor master building. Softball, target shooting, food stands, and the pig roast were all popular events. The greased pole climb was, however, the most humorous of the events stages, and the raffle of a donated color television and a rifle ended the day on a very upbeat note. Many people commented on the overwhelming success of the celebration, especially in light of the fact that nothing of the sort had ever been tried before.

The Women's Club, also known as the Sewing Circle, began about four years ago as a fundraising and service organization. Initially the group simply met informally for conversation while they sewed, but they soon decided to auction their handcrafted goods as a way of raising funds for community projects. The club currently has about 12 active members. Most are Aleut women from the older Sand Point families. They meet weekly to work on quilts, afghans, and other small fabric craft items. These items are auctioned once a year, with \$5,000 to \$6,000 raised each time.

In recent years the Women's Club has paid for a fence to protect the cemetery which now, as the town has grown, is nearly surrounded by houses. They have also donated money each year for various school travel activities. Currently, the women are raising money to help purchase equipment for the community medical clinic. The major item being discussed is an X-ray machine.

The Women's Club undertakes one other service activity although, fortunately, this has not been necessary for several years. When homes burn down, the women organize donations to replace household goods, provide temporary housing, and generally help get the family back on its feet.

Sand Point, then, has only recently seen the formation of voluntary organizations. This correlates with the period in which the community is becoming more complex in many respects, and it might be said that these new institutions are part of this general trend toward formality. Perhaps voluntary organizations with a slightly more regular structure are now needed to meet goals which were formerly met through informal face-to-face interactions.

#### Sand Point Political Organizations

Local Organizations. Local political institutions have proliferated in the past decade. The closely contested decision to incorporate as a first class city in 1978 created a stronger City Council which was soon followed by the formation of a Planning Council. A Health Board was formed when the city took over this important service and the newly independent Sand Point School District has its own local School Board. In addition, the Shumagin, Unga, and Sanak Corporations, village corporations formed under the Alaska Native Claims Settlement Act, have emerged as important bodies through which the interests of the Sand Point Aleuts are represented. Finally, the Peninsula Marketing Association, which represents the fishermen of the region, draws much of its leadership, and most of its membership, from Sand Point.

The City of Sand Point is governed by a seven-member elected City Council and an elected Mayor. The council and the mayor formulate the broad program and policy objectives of the city while the implementation of these is left to the city manager shared jointly with King Cove and currently located in Anchorage. This arrangement also places a great deal of responsibility for the day-to-day operation of the city office in the hands of the city clerk.

The composition of the council reflects the occupational

profile of the community. All but one of the positions are held by fishermen or members of fishing families, and all but one of these is associated with the larger scale purse seine operations. The mayor is an independent businessman.

The responsibilities of the city include both services and capital improvements. The major services provided by the City of Sand Point are water and sewer, roads, the small boat harbor, and the medical clinic. Major capital improvements recently completed include the expansion of water and sewer services under Public Health Service (PHS) funding in 1975-1976, and the construction of the small boat harbor in 1977. Plans are currently in the final stages for construction of a new health clinic while arrangements for a major expansion of the small boat harbor and construction of a new city dock should be completed in time for construction in 1983.

The magnitude of city financial undertakings has risen dramatically as shown in Table 4.1.16. From \$276,645 in FY1978, the city's budget grew to nearly two and one-half times that in FY1982, or \$661,351. These figures do not include the funds devoted to capital improvement projects, or \$839,000, in FY1982 alone.

A detailed examination of the FY1982 budget, shown in Table 4.1.17, draws attention to several interesting factors. On the expenses side, the single largest category is "Maintenance," out of which personnel and equipment costs incurred in the operation of the roads and the water and sewer system are paid. On the revenue side, the most striking feature is the importance of the local sales tax in generating city revenues. Some \$200,000, or nearly one-third of the budget, is obtained from this source. State revenue sharing funds account for about another one-third. State and federal funds combined account for approximately one-half of the city's operating budget, a figure much lower than that commonly found in rural villages.

The Planning Commission consists of five elected members who determine zoning and planning policy and oversee the work of the Director of Planning, a position shared with the City of King Cove and located in Anchorage. The principal accomplishments of the Planning Commission to date have been the preparation and passage of a comprehensive zoning ordinance and the preparation of the 1981 Comprehensive Plan for the City of Sand Point. This plan, prepared with funds from the Alaska Department of Community and Regional Affairs, recommended a number of policies concerned with land use and economic development. Among these were recommendations

TABLE 4.1.16

SAND POINT MUNICIPAL FINANCES  
FY1978 - FY1982

FY	Revenue	Expenditures	Capital Projects
1978	276,645	281,156	239,150 (1)
1979	312,618	284,966	N/A
1980	483,963	455,545	N/A
1981	466,800 (2)	466,800 (2)	425,000 (3)
1982	661,450 (4)	661,351 (4)	839,000 (5)

## Notes:

- (1) A Department of Commerce Local Public Works Grant
- (2) Figures are from Budget only.
- (3) Fully funded from non-municipal sources, funds are intended for construction of the new health clinic, and reconstruction of the water retention dam.
- (4) Figures are from the Budget Ordinance.
- (5) Funds are intended for construction of street lighting, boardwalks, marine travel lift, city shop, float relocation, Red Cove Road.

Source: City of Sand Point Annual Statements of Revenues and Expenditures.  
City of Sand Point Annual Ordinances Establishing Fiscal Year Budgets.  
City of Sand Point Capital Improvement Program Five Year Budget,  
1981-1986.



TABLE 4.1.17  
SAND POINT CITY BUDGET, FY1982

<u>Expenditures</u>		<u>Revenues</u>	
Council	25,000	Sales Tax	200,000 <sup>1</sup>
Administration <sup>1</sup>	84,000	Licenses, Fines	200
Planning and Zoning	66,000	St. Mun. Rev. Sharing	200,000
Public Safety	42,100	St. Bus. Lic. Refund	2,000
Volunteer Fire Dept.	5,000	Bldg. Rentals	750
T.V. Station	2,000	Equipment Rentals	1,000
Health Care Clinic	7,500	Mobile Home Rentals	3,500
Parks and Rec.	2,000	Harbor/Port	65,000
Maintenance	187,800	St. Processors Tax	25,000
Harbor/Port	64,650	Misc.	10,000
Other	135,300	Federal Revenue	18,000
Transfer to Capital Budget	40,000	Water/Sewer	45,000
		Assessment (IND)	25,000
		St. Planners Grant	66,000
<b>Total</b>	<b>661,450</b>	<b>Total</b>	<b>661,450</b>

<sup>1</sup> The major part of this sum is comprised of the 2% sales tax levied on seafood sold by fishermen to Aleutian Cold Storage.

Source: City of Sand Point, Ordinance No. 82-1

leading to the passage of the zoning ordinance and an ordinance concerned with the minimum standards for subdivided lots offered for sale to the public.

The Planning Commission's role in land use decisions is apparently a very delicate one. According to several accounts from diverse sources, the general principle of land use planning and zoning is accepted widely enough. No one, for example, wants to see the situation repeated in which fire trucks have no access to a group of houses because no access easements were made. Difficulties arise, however, when any individual's plans for his/her land are constrained by the zoning requirements. While disputes of this sort have not been numerous, they have excited very strong feelings. Increasingly formal regulation seems to be an inevitable counterpart of community growth and expansion, despite the hardship this might create for people used to highly independent ways.

The School Board is the third major elected body in Sand Point. Local control of the schools was a central factor in the successful vote to incorporate Sand Point as a first class city, and shortly thereafter, the new school board was elected in January 1979. The five-member board provides policy direction and community oversight of the K-12 school program in Sand Point. The day-to-day administration is left in the hands of a school district superintendent, a man with many years of experience in operating another independent school district on the Aleutian Chain. The present school board retains the same membership originally elected in 1979 and four of these members were previously active either as members of the Community School Committee or as representatives to the Regional School under the former Rural Education Attendance structure. The majority of the school board representatives are women.

Two facts are often cited as evidence of the success of the Sand Point school and the respect for education among Sand Point residents. First, many of the graduates of the Sand Point school continue in post-secondary education. In 1980, five of the ten graduates attended either a university or a technical college. In 1981, eight of the 12 graduates were planning further education. Equally impressive is the fact that none of the Sand Point students have yet dropped out of university or technical college.

The second indicator of the health of this school district is the very low rate of turnover among the staff since the move to status as an independent school district. All 13 of the teaching staff of 1980-81 returned for the

1981-82 school year.

Two other elected boards oversee the use of more specialized program funds by the school district. The five-member Indian Education Committee and the seven-member Johnson O'Malley Committee (JOM) both direct the use of funds provided by the federal government to enhance the educational opportunities of Native students. The membership of these two boards overlaps considerably and all but one of the members are women. The Aquaculture Program is perhaps the most impressive of the programs funded under these committees. Through JOM funds, a separate building was built on Humboldt Creek to house a small scale salmon hatchery. The program provides invaluable first-hand experience and participation is extremely enthusiastic. While JOM funds will suffer as a result of the federal cutbacks, the school district has agreed to integrate the aquaculture program into its vocational education program.

Other JOM funds have been used to operate a half-day preschool for three- and four-year-olds. Housed in the City building, this preschool serves 30 children during the school year. Indian Education program funds have been used to purchase band equipment and uniforms, as well as to sponsor a Native heritage publication, The Aleut.

The final locally-elected board to be considered is the Health Board which sets policy and oversees the operation of the City Health Clinic. The board is made up of seven members, one of whom serves as president. All but one of the elected members are women and among the members are a former nurse and a representative from the cold storage plant.

The City Health Clinic operates out of a small and now outdated facility leased from the Baptist General Conference. Services are provided by a Physician Assistant, a Health Aide, and a Medical Receptionist. Services offered include well baby clinics and immunizations, emergency services, minor x-rays, and temporary hospitalization while awaiting transportation to Anchorage for more intensive care.

The clinic operates on a fee-for-service basis, although the city contributes a small subsidy to the operating costs and the Alaska Native Medical Center (ANMC) in Anchorage contributes many of the medical supplies needed. Collection of fees has been a problem since most of the people in Sand Point are beneficiaries of federally subsidized health care at ANMC in Anchorage. With time, though, people have become more willing to pay the nominal fees involved in supporting a local health care facility.

The village corporations formed under ANCSA, of which there are three based in Sand Point, form another important local political organization. Upon conveyance of full title, one of these, the Shumagin Corporation, will become the largest land owner in Sand Point. The village corporations differ, of course, from the other political organizations discussed in that their membership is restricted to beneficiaries of the Alaska Native Claims Settlement Act, and only shareholders may vote in their elections

The Shumagin Corporation has 409 members, the great majority of whom live in Sand Point. The Shumagin shareholders elect a nine-member Board of Directors which defines the broad policy objectives of the corporation. The board elects a President and other executive officers who watch the day-to-day affairs. A full-time secretary has been hired to manage the corporation's office.

The Shumagin Corporation Board of Directors is about evenly composed of men and women and, while virtually all members are associated closely with fishing, no one gear type appears to have dominance. Some members of the board hold other elected offices in Sand Point.

The Shumagin Corporation has several projects underway for investment and commercial development in Sand Point, two of which are now in the early stages of implementation. The first is a ten-unit motel, restaurant, and lounge which will be built next year near the center of town. The second is a plan to subdivide 125 lots, most of which will go to shareholders, but some of which are intended for sale to the public. Both of these ventures will represent the entry of an important new economic force in the local economy.

The Unga Corporation, while based in Sand Point, is made up of some of the former residents of Unga village on neighboring Unga Island. Most of the people from Unga elected to enroll with the Shumagin Corporation. The Unga Corporation counts about 45 members, about a dozen of whom now live in Sand Point. The principal assets of the Unga Corporation are its land holdings on Unga Island; however, the small enrollment limited the extent of the original entitlement. There has been some disagreement among the directors of the Unga Corporation as to how to proceed with development of these assets and, as a result, no plans have yet been agreed upon.

The third and smallest of the village corporations in Sand Point is the Sanak Corporation. This corporation counts about 25 members who were formerly residents of the village on

Sanak Island. As with the Unga Corporation, the principal asset of the Sanak Corporation is its land holdings, in this case on Sanak Island. To this date the only project of the Sanak Corporation has been to lease its land on Sanak Island for cattle ranching. According to one of the individuals associated with the formation of the Sanak Corporation, the intent in forming the corporation was not to seek rapid development of the corporate resources, but to hold onto the land surrounding the former place of residence and to pass this heritage on to succeeding generations.

From this account it is clear that local political institutions have proliferated in Sand Point in the past few years. Incorporation as a first class city with local control of the school and the health care facility, as well as the new zoning and planning powers, has entailed the creation of a dense network of local political institutions. Although the formation of the three Alaska Native village corporations in Sand Point derives from a very different dynamic, it has also contributed to this trend towards elaboration of local political organizations.

Regional Organizations. Perhaps because of the dynamic growth of local units of government and local provision of services, the regional counterparts of the village corporations, The Aleut Corporation and the Aleutian Pribilof Islands Association (APIA), have played a very low-profile role in Sand Point. The corporate undertakings of the Aleut Corporation are not well known in Sand Point, nor do they appear to have much impact on the lives of the Sand Point shareholders. This is the case despite the fact that a board member for the corporation lives in Sand Point. The situation with the Aleutian/Pribilof Islands Association is more complex. One of the members of the APIA Board of Directors is from an important Sand Point family and the work of an APIA subsidiary, the Aleutian Housing Authority, in obtaining 14 houses is known and appreciated. In education, job training, and health care, however, the initiatives seem to have been largely left to the local entities. This is apparently a satisfactory relation for all concerned, for no complaints about lack of attention from APIA were voiced.

One important regional instance in which Sand Point residents play a major role is the Peninsula Marketing Association, the collective bargaining arm of the fishermen of the Alaska Peninsula from Sand Point to Nelson Lagoon. The Association, which represents 95% of the fishermen in its region, is governed by a seven-member board of directors, on which Sand Point residents currently hold four seats.

Sand Point fishermen were said to have been the initiators of this organizing effort in 1966. According to one informant, the difficulties of the early years in which the processors went to great lengths to destroy the new organization, contributed greatly to its current strength.

The Association undertakes two major responsibilities on behalf of its members. First, the PMA initiates and conducts price negotiations with the processors each spring, generally arriving at a settlement just in time for the opening of the South Unimak fishery. Secondly, the PMA represents the political interest of its members in the regulatory process, particularly in the December meetings of the Fisheries Board each year in Anchorage.

The life of the PMA promises to be interesting over the next few years as several areas of uncertainty and contention are already on the horizon. First, the PMA will continue to express the discontent of the South Unimak fishery fleet with the current quota system. Many argue that the current 8.3% of the projected Bristol Bay red salmon run allocated to the Alaska Peninsula fishermen is well below their historic proportion of the harvest. They feel that the quota was established at this level as a result of their failure to vigorously protect themselves in the regulatory arena at a time when the Bristol Bay fishermen were well represented. Any effort to change these quotas at the present time will surely find a major obstacle in the fact that the returns to Alaska Peninsula fishermen in the past few years have been nothing short of unprecedented.

A major area of uncertainty, already discussed in another context, is the current turmoil in the processing and pricing side of the fishery. Although the PMA settles with the processors on behalf of 95% of the fishermen, last year only 40% of the total harvest was delivered to the processors with whom the PMA negotiated, a sharp decline from previous years. The cause of the decline is the sudden increase in the number of floating processors and cash buyers in this region. The consequences, however, are less clear. How far the fishermen will continue to orient their sales to the cash buyers will depend in large part upon how dependent they feel themselves upon the land-based processors for gear storage, emergency repairs and parts, off-season gear storage, and advances of funds for equipment.

Finally, it is possible that the internal cohesion of the PMA will come under challenge in the next few years. Although it was not possible to ascertain the breadth of sentiment on this matter, several fishermen asserted that the PMA

represented the interests of the deepwater purse seine captains most vigorously, with less energy and attention devoted to the problems of the gillnet gear operators. Some suggested that a new association was needed to truly represent the interests of the gillnet fishermen.

In sum, with the notable exception of the Peninsula Marketing Association, Sand Point is not closely integrated into the regional political institutions. That the marketing association forms the sole exception, of course, reflects the tremendous importance of fishing in the lives of Sand Point residents. The PMA is also a product of the restructuring of fishermen-cannery relations which saw fishermen's associations formed throughout the state in the early 1960s. More generally, however, Sand Point residents turn to local initiatives first, rather than regionwide organizations. This point serves to underline the value placed on local control, but it also reflects the technical competence found in this community to locally administer virtually all service programs.

Political Processes and Response Capacity. The central concern in this examination of the range of social and political institutions in Sand Point is an assessment of their response capacity, or their ability to vigorously represent the interests of their constituents in facing transformations in the region's economic and demographic profile. This question seems, reasonably, to divide into two aspects. First, cohesion in the political institutions would promote effective responses while internal dissention and factionalism would hinder this process. In other words, an initial question to ask concerns the degree to which the full spectrum of interests in Sand Point are fairly represented and feel themselves to be fairly represented in their political institutions. Secondly, response capacity has a technical side--does the scale and scope of current undertakings by the city's institutions suggest that they would be able to respond to challenges on a larger scale?

Several incidents may be examined as they bear on the first issue, that of breadth of representation. This discussion must be prefaced by emphasizing that the incidents described here are generally matters on which feelings run high in Sand Point. The fieldwork from which this information was gathered was too short to permit an exhaustive examination of the conflicting accounts, and so the descriptions offered here are not intended as judgements on the merits of the various points of view. The concern, instead, is with an understanding of the exercise of power in Sand Point, and the degree to which members of the community generally feel that

their interests are being protected.

The earliest of the incidents mentioned in this regard is the disposal of land by the cold storage company during the decade of the 1970s. Several informants stated that during this time only people who could obtain land were recently immigrant Whites despite the fact that land was in short supply and greatly desired by many people in the community. While the superficial facts of the matter seem to accord with this view (some entrepreneurial-oriented Whites obtained a great deal of valuable land during this period), the interpretation given these facts is open to a major challenge. The cold storage company, at the time, was interested in disposing of a certain amount of land for individual family homes. Lots were sold with the condition that they be used for building within a specified period. Many lots were not built on in the prescribed period and some owners sold their lots to the building contractor in question. Despite the strong feelings on this topic, it appears extremely unlikely that the cold storage company was colluding in the process by which so much land came into the hands of a few people.

The vote to incorporate as a first class city kindled conflict along similar lines. Very briefly, under the REAA administration of the Sand Point school, the firing of a popular local principal fueled the interest in an independent school district. As a result a number of people, including teachers and former teachers, began to advocate incorporation as a first class city in order to obtain local control over the school. While this goal was not directly contested, a sizeable portion of the community opposed incorporation because they opposed any form of local property tax. The sentiment was voiced that again the recent immigrants were the force behind rapid and, in this view, disruptive changes.

The vote for incorporation was extremely close but the measure passed. Happily, the independent school district has, by all accounts, been a major success and the city council has thus far had no reason to turn to local property taxation. The matter of taxes is sure to resurface, however, as recent city planning documents strongly suggest that this should be considered anew.

The final incident of this sort concerns feelings that obstacles were placed in the way of Shumagin Corporation commercial initiatives by the White businessmen and entrepreneurs. At issue is the interpretation given events leading to cancellation of Shumagin Corporation plans for a shopping mall. One view holds that the other businessmen in town used their influence to scuttle the plans because of the



competition it represented. The other view argues that the plans were simply dropped with a change in Shumagin Corporation leadership and that "small town jealousies" have kept this sort of suspicion alive. In a similar vein, zoning standards applied to the Shumagin subdevelopment project have been cited as another form of obstacle. Although the Shumagin project is the first to which the recently enacted subdivision ordinance is being applied, that ordinance certainly fits the pattern of increased formalization in land use planning and zoning which has been underway in Sand Point for several years. This fact seems to argue against the view that it is being maliciously applied in this case.

In each of these incidents, conflicts are seen as occurring because some interests in the community were able to exert their will over the interest of other segments of the community. The common elements in each is the perception that control over the rate and direction of change in Sand Point is slipping from the hands of the long term Aleut residents into the hands of the recent immigrant Whites. While it is not possible here to offer definitive interpretations of the events involved, one thing is clear--a significant portion of the community remains extremely suspicious of the current network of political institutions. Any acceleration of the rate of change in Sand Point would be sure to exacerbate these feelings of loss of control.

As for the technical capabilities of the political and social institutions of Sand Point, several positive indicators stand out. The city has recently established a number of elected bodies to ensure the quality and responsiveness of services of many sorts. A professional administrative and planning staff has been added and the city has successfully managed rapidly increasing operating and capital improvements budgets. Several facts suggest, in addition, that the city has exercised considerable foresight in preparing for growth: water and sewer capacities currently exceed demand and a new school building and clinic will soon be completed. The city dock and boat harbor expansion will be completed before needs become acute.

In sum, the response capacity of Sand Point institutions would be rated very high from the technical standpoint while the difficulties alluded to in the area of breadth of representation would remain matters of concern in any situation of accelerated change.

#### 4.1.5 Sand Point Sociocultural Organization

Sociocultural organization includes the cultural heritage

of the population and the contemporary values and beliefs that are consciously stated as well as those that are evident from patterns of behavior.

Cultural heritage is used in this context to refer to a number of points of continuity with the past which Sand Point Aleuts actively incorporate into their current sense of identity and their outlook on the world. The matter is surely more complex than can be treated in the present context, if for no other reason than the fact that the fieldwork period on which the information is based was exceedingly short. Moreover, until fairly recently, identification with things Aleut was cause for ridicule, a situation which only changed with the conferring of significant economic and political power to Alaska Natives under the Alaska Native Claims Settlement Act.

Cultural heritage in Sand Point is made more complex by the fact that it blends three distinct traditions: the aboriginal Aleut tradition, the early historic Russian influence, and the turn of the century, largely Scandinavian, influence of the cod fishery. The configuration of these elements differs throughout the present day Sand Point population as a result of the differing historic experiences of the Aleut villages which contributed their population to Sand Point.

Language. One important area of cultural heritage is language and the degree to which Aleut or English is used in the home, in social life, and in public affairs. Contemporary life in Sand Point is overwhelmingly carried out in English. Conversations on the boats, over the radios, in the shops, homes, and public meetings are in English. Only a few elder households are said to continue to use Aleut as the means of communication in the home. Most of the senior and junior generation (20 to 50 years of age) recall having heard words of Aleut in their youth, but do not themselves have facility for the language. Nor is there a strong sense that the schools should be doing more to promote the revitalization of the Aleut language. There has been no bilingual program in the Sand Point school for several years.

In one very specialized context the Russian language retains a certain limited importance. Some of the older people in Sand Point still have and use Russian Orthodox bibles which are written in Russian, but this skill is not widespread.

Ethnic Identity. Sand Point Aleuts do consider themselves distinctive, particularly in reference to the

recently immigrant Whites in the community, but they rarely use the term "Aleut" to describe that difference. More typically, they refer to themselves as "fishermen," or "locals," as a way of distinguishing themselves from "businessmen and teachers" or "outsiders." This pattern suggests that the turn of the century fishery forms the basis of identification, rather than the aboriginal Aleut period. Indeed, the fishermen are likely to talk of their Scandinavian forebearer when talking of their origins.

Inter-ethnic relations, it has been pointed out in discussions of economy and politics, do tend to operate in a climate of suspicion in contemporary Sand Point. While there is little expression of outright hostility, a quiet feeling of mistrust is often cited. These feelings are closely associated with the fear of loss of control over the rate and direction of change in Sand Point, a feeling aggravated by the rapid transformation of this city in the past half-decade. If the rise of pride in "Aleutness" associated with the passage of ANCSA is any indicator, then perhaps the emerging importance of the Shumagin Corporation as an economic force in Sand Point will partially diminish these feelings.

Religion. Sand Point presently hosts three religious traditions: the Russian Orthodox faith, the Baptist faith, and the Roman Catholic faith. Of these, the Russian Orthodox is the oldest in Sand Point. The Orthodox Church building is located on a hill overlooking the small boat harbor but has now become dilapidated beyond use and services are currently held in the City Building. Plans are underway to rebuild the church, which has now been registered as a historic site. There is no resident Orthodox priest in Sand Point, nor has there been for many years. The Sunday services are led by the lay-reader, an elder Aleut woman. The average attendance each week is fairly small, less than 24 people, but the large majority of the community is nominally of Russian Orthodox faith. This is particularly apparent at marriages and funerals when a priest from one of the other villages in the region visits to officiate.

A more recent and now very active religious tradition in Sand Point is the Baptist Church. This church has its roots in the nondenominational medical mission founded in Sand Point in the 1960s, originally staffed by a missionary doctor assisted by a nurse. The mission has since dropped its program of medical services and has now come under the auspices of the Baptist Conference. The former mission clinic is now used by the city's health clinic.

With a resident pastor and his family, the Baptist Church

has a very active life in Sand Point; worship and bible study services are held several times during the week. Services are well attended with 50 to 75 persons in attendance at Sunday services in July 1981. Although no precise estimates were offered, this church apparently involves just over 100 persons in Sand Point.

In addition, the Baptist Church founded a Christian elementary school program two years ago. The school is supported by tuition payments from the families of the approximately ten students who have been enrolled each year. The families involved are quite enthusiastic about the new school program and particularly appreciate the reinforcement of the values they teach in their homes in the school setting. Parents regularly volunteer their time to help in the school.

The third religious tradition represented in Sand Point is the Roman Catholic Church. A handful of members meet irregularly with a nun who visits from Anchorage.

The special role of religion in Sand Point emerges in the interaction between the first two of these traditions: the Russian Orthodox and the Baptist churches. The Baptist Church in Sand Point, as elsewhere, is an evangelical and proselytizing tradition, and considerable effort is devoted to converting nonmembers despite their participation in another religious tradition. Several informants spoke of heated discussions in which they felt that the integrity of the Russian Orthodox faith was being challenged by these efforts to convert. In their view, the Baptist Church was too forceful and intolerant. Without being able to say how common these encounters are, or the degree to which they create enduring factions in the community, it is clear that Sand Point Aleuts, even if they do not actively practice the Russian Orthodox faith, strongly embrace the Orthodox Church as a major element of their cultural heritage.

**Socialization.** Socialization refers to the transmission of critical skills from one generation to the next, and occurs in both the informal setting of the family and kin group and in the more formal setting of the school system.

One of the more striking features of life in Sand Point is the high value placed on formal schooling. Attendance throughout the year is high as is community participation and interest in the activities of the school. There are only isolated cases of students dropping out before completing high school, and the number of graduating students continuing in post-secondary education was 50% and 66% in the past two years. This level of educational attainment differs sharply

from rates in rural Alaska and in the Alaska Peninsula region in general. One explanation offered emphasized the high value placed on education by the Scandinavian men who married and raised families in Sand Point during the early decades of this century. A very deep respect for education is apparent, too, in the visible pride with which the history of the Unga school was recounted on several occasions.

Informal socialization in Sand Point shows a pattern in which the roles for which boys and girls are prepared differ rather sharply. For boys, the fishery is everything. From a very early age, boys are exposed to virtually all aspects of the fishery, initially through overhearing conversations and helping with preparation of equipment on land and followed, at the age of perhaps ten, by the opportunity to accompany the boat out on the fishing grounds. The pattern differs somewhat between gear types, for the set-gillnet operations are almost exclusively family oriented and both young boys and girls often accompany their parents out on these boats. On the deepwater purse seines, the technical complexity of the operation precludes the casual inclusion of young children in the operation, but some boys are able to learn enough of the skills to be taken aboard as crew members by the age of 12 or 13. In one notable case, a young teenager served as the skiff man on his father's boat, operating a diesel-powered aluminum skiff worth upwards of \$30,000.

Young girls are still socialized into the roles of raising a family and maintaining a household although there is some indication that many young women now set their sights on having their own jobs in addition to raising families. Some women actively pursue the gillnet fisheries but none were known to be active in the deepwater purse seine operations. Local women formerly found employment in the cold storage plant, but with the recent prosperity of the salmon fishery, few now take up this relatively low prestige work.

There were no extended periods during which the young people of Sand Point left the community for schooling and, hence, no major period of discontinuity in the influence or parental socialization. Particularly for males, the goals toward which they are socialized remain those of their fathers; for young women, a wider spectrum of goals is emerging, but without abandonment of the goals toward which their mothers have socialized them. Generally speaking, there is little of the generation gap which characterizes many villages elsewhere in Alaska.

Values. Without any doubt, the most striking cluster of values expressed in Sand Point are those associated with

fishing as a livelihood. Fishing is the ubiquitous topic of conversation, from the boats to the bar and in the homes. Central among the values asserted in these conversations is the self-designation as rugged, capable individualists who match their skills and wits against an unforgiving environment in an enterprise which rewards only personal strength and ability.

The emphasis on individual ability is tempered by an interesting set of collective responsibilities. The fishermen respect one another's claims to a particular fishing spot and, as in the case of Red Bluff in July, when there are only a few good "hook-off points" a system of waiting turns is meticulously respected. In this system, the vessels literally line up and wait their turn to set their seine. Each boat holds the seine open for a designated time (in July 1982 it was about 20 minutes) and then closes the purse and hauls the fish aboard so that another vessel can make its set. Throughout the wait the CB radios are alive with good-natured banter among the captains, including mock challenges to one another's place in line. Similarly, when captains find each other selling to cash buyers in a secluded location, they joke about bringing this to the attention of the buyer to whom both are nominally committed, but of course nothing of the sort would ever be done.

Sand Point fishermen do not, however, display the commitment to egalitarianism reported by Jones (1976:38) for neighboring King Cove. A small number of fishermen are readily held out as examples of "highliners," and conversely some are referred to as "lazy fishermen." There are dramatic differences in the level of return to deepwater purse seine vessel owners as compared to owners of the smaller gillnet vessels, and no leveling mechanisms of any sort were in evidence. Sand Point is a highly diversified society with little commitment to a notion of egalitarianism among fishermen or between other categories of people in the community.

Mention of the diversity of Sand Point ushers in the second of the crucial values expressed in Sand Point, that of local control. In another context the area of inter-ethnic relations has been examined and it was suggested that the moderate level of friction in this area results from uncertainty over who will control the pace and direction of change in Sand Point. In other words, perceived challenges to local control are the basis of these tensions. While numerically speaking, the balance of political power has not shifted from locals to newcomers, the feeling of suspicion is widespread. On a more positive note, the high level of

interest and participation in the wide range of locally elected bodies reflects a belief that these are effective means for voicing local needs and desires. The value on local control is reflected institutionally in the move for an independent school district and in local initiatives in health care. More generally, local representatives in this position are, with few exceptions, conscientious in the discharge of their duties, and the community clearly expects this of them.

In sum, then, the value on local control points to one of the abiding dilemmas of contemporary Sand Point. On the one hand, the technological intensification of the fishery is welcomed as are the consumer benefits which accompany this type of change. With this growth, however, comes a proliferation of more formalized methods of conducting community affairs, and greater diversity in the ethnic and economic profile of the community. On this count feelings are decidedly more mixed. It would be an error, however, to conclude that the people of Sand Point blanketly oppose all forms of change in their community; it is the matter of power over these changes that generates contention. Given credible institutions to exercise the community's wishes, the current hesitations about the future might well be resolved.

## 4.2 KING COVE

### 4.2.1 King Cove Introduction

King Cove is a small predominantly Aleut fishing town located on the southside of the Alaska Peninsula approximately 18 miles southeast of Cold Bay, the regional air travel center and 625 miles southwest of Anchorage. It is located primarily on a sand spit at the head of an embayment which opens to the south. The spit divides King Cove into the lagoon behind the community and the outer bay which merges with Deer Passage and the Gulf of Alaska.

King Cove sits in a narrow valley flanked by steep mountains approximately 1500 feet high. The steep slopes are drained by numerous rivulets and streams, many of which lack well-established channels, leading to substantial erosion in the area. The community lies in a zone of intense seismic and volcanic activity being 40 miles west of Mt. Pavlof, whose most recent eruption occurred in September 1981, and 20 miles east of Frosty Peak, a dormant volcano. Soils in the vicinity of King Cove are derived from weathered volcanic sandstone and are not considered particularly suitable for agricultural purposes.

King Cove lies in a 60 mile wide band from the end of the Alaska Peninsula to approximately Volcano Bay which is characterized by a high degree of fog and cloudiness resulting from the merging of warm North Pacific air with the colder Bering Sea air. Conditions are worst in July and August when instrument flying conditions prevail nearly 40% of the time. In addition, King Cove lies on the major corridor of storms moving from the Aleutian Islands eastward into the Gulf of Alaska or to the Southcentral Alaska mainland. Periods of strong winds are frequent with a prevailing south-southeast direction and a mean annual speed of 16 knots. The narrow, steep valley in which King Cove lies tends to funnel winds along a southeast-northwest axis.

Mild winters, cool summers and significant stretches of overcast are characteristic of the North Pacific maritime. Rainfall is relatively light, averaging only 33 inches annually (Cold Bay data), while snowfall, which normally occurs from October to May, averages about 4 inches. August is the warmest month of the year and February the coldest.

The moderate climate insures that King Cove has an ice free year round harbor. This plus its abundant freshwater and close proximity to the rich Bering Sea king and Tanner crab grounds combine to make King Cove an attractive location for



year-round fish processing.

King Cove was founded in 1911 when Pacific American Fisheries built a salmon cannery there. Its first residents were primarily Northern European fishermen, a number of whom took Aleut wives. Although not the site of any aboriginal Aleut settlement, Aleut families were gradually drawn to the community, the men to fish for salmon and the women to work in the cannery. The majority of the Aleut ancestors of contemporary King Cove residents appear to have come from Belkofski, a recently abandoned village in the next bay east of King Cove, and Sanak Island with others from smaller villages in the area including Thin Point, Morzhovi, Ikatan and False Pass.

The fish processing industry has been the reason for King Cove's existence from its inception to the present. The salmon cannery, under a number of different corporate regimes, has operated continuously since 1911. In 1958 the plant diversified to King crab processing opening the way for the local fishermen to enter a new fishery and supplement their salmon earnings. Salmon roe processing became an important product in the 1960's and Tanner crab was processed for a period in the middle 1970's.

King Cove was incorporated as a first class city in 1947, and has been an independent school district since statehood in 1959. The 40 acre townsite was surveyed in 1962 and patented to the BLM Townsite Trustee in August 1968. Individual land parcels have been deeded to occupants as either restricted or nonrestricted deeds. Unoccupied land (of which there was very little) and the school reserve were deeded to the City of King Cove in 1977. The cannery owns 27 of the 55 acres of the spit, the remainder of which is tightly packed with houses.

King Cove has grown dramatically in the past five years due to immigration and natural increase. The single most important event was the movement of eight families from Belkofski to King Cove in 1976 completing the consolidation that had gradually been occurring over the past 20 years. Since that time natural increase, some small immigration from nearby villages, and immigration from non-Aleutian areas have led to two new areas of housing being opened, both noncontiguous with the older area of housing in King Cove.

In part as a result of this population growth but also due to the oil surplus available to the State of Alaska, King Cove has experienced significant expansion of its infrastructure in the past five years. This expansion includes a small boat harbor which can handle up to 200 vessels, a gear

storage building, a new power plant and water system, satellite TV, household telephones, and a 3500 foot runway. In addition, the community is now serviced three times annually by the State ferry system and receives barge service nearly monthly, a significant increase over the two-a-year service of the 1950's.

These changes are occurring in near unison and in an extremely short time period. Nevertheless the community seems to be adjusting to them well and looking to the future with an eye toward channeling additional change in a manner that will benefit the traditional residents of King Cove. This is being accomplished by King Covers who exercise power through their city council, school board, and village corporation and who make good use of the professional planning and city management expertise available to them. A strong sense of civic identity and self-confidence contribute to this general sense of positive direction.

#### 4.2.2 King Cove Demography

Population Trends. Past, Present, Projected - Despite the fact that it was founded in 1911, King Cove does not appear in the U.S. census until 1940 when it appears at 135. It is clear, however, that there were year-round residents in King Cove from at least 1915; there is no explanation why it does not appear in the census prior to 1940. As Table 4.2.1 indicates, the community of King Cove has grown steadily since 1940 with the exception of the period from 1960 to 1970.

Belkofski as a community goes back to the early 19th century when it was settled by Aleuts under Russian direction because of the prolific sea otter banks nearby (Jones and Wood, 1973). During the boom days of sea otter hunting, Belkofski was likely the most affluent village in the Aleutians. In 1880 there were three rival stores in the community and Aleuts imported building materials and furnishings for their homes from San Francisco (Jones and Wood, 1973). The Russian Orthodox Church established their administrative center for the eastern portion of the Aleutian Islands in Belkofski where an impressive church was built.

The destruction of the sea otter led to the decline of Belkofski as men left the village each summer for wage work, most fishing out of King Cove, but a few worked in the King Cove cannery or at the seal harvest in the Pribilofs. In contrast to King Cove, by the early 1970's Belkofski had no store, clinic, bar, transportation, or communication services. Houses were still lighted by gas and kerosine lanterns, water hauled from the local stream, and outhouses used (Jones and

Table 4.2.1

HISTORICAL TRENDS IN POPULATION:  
KING COVE AND BELKOFSKI

	King Cove	Belkofski
1890	--	185
1900	--	163
1910	--	--*
1920	--	129
1930	--	123
1940	135	140
1950	162	119
1960	290	57
1970	283	59
1980	467	10

\* District figures only given.

Source: U.S. Census

Table 4.2.2

KING COVE PROJECT POPULATION GROWTH, 1980-2000

	Population Projection 1 (Minimal Development)	Population Projection 2 (Significant Development)
1980	684.0	684.0
1985	745.5	809.5
1990	812.5	976.0
1995	885.6	1028.5
2000	905.3	1081.0

Woods, 1973:25). A major factor in the demise of Belkofski was the lack of a good harbor or anchorage. As long as baidarkas and even dories were the major sea-going craft needed for production, the community could tolerate having to haul the vessels up on the beach. However, larger salmon fishing vessels had to be stored on land at the cannery in King Cove, thus precluding their use for winter activities. This factor, along with isolation and lack of services, led to the gradual movement of Belkofski's residents to King Cove.

The 1980 federal census put the population of King Cove at 467. However, that census was conducted during February when community population was at a low ebb due to resident cannery personnel being away on vacation. The city conducted their own survey in June of 1980 which included seasonal cannery workers and found 684 residents. The local census conducted in 1981 reported 737. This included slightly over 200 seasonal cannery workers. The resident population numbered 500 in 122 households.

Recent growth has been dramatic in King Cove resulting from immigration, return migration and natural increase of the local population. This growth is evident from the school's projection of 26 children in the preschool/kindergarten for the 1981-82 school year in comparison to the 20 enrolled during the 1980-81 year. In addition, natural growth appears to be accelerating. Births during the past three years plus the first half of 1981 are as follows:

<u>Year</u>	<u>Births</u>
1978	8
1979	9
1980	16
1981 (through June)	13

In addition seven women were reported pregnant in July, 1981.

The King Cove 1981 Comprehensive Plan presents two growth projections for King Cove through 2000. The first assumes that community characteristics will remain "relatively unchanged" while the second assumes "significant industrial, commercial, and housing development." It should be noted that the second projection is based on assumption of additional fish processing industry and housing being opened in the Lenard Harbor area over, 10 miles northwest of King Cove.

Population Structure. Age, Sex, Ethnicity, and Household Size. Although the discussion of population growth implies that the population of King Cove is a young one, census

figures on age structure for the entire community are not available. The school age population of the community for 1980-81 is shown in Table 4.2.3.

The resident population under 18, obtained by adding the school population and the recent births, is 158, 31.6% of the total population. This cohort makes up a substantial 21.4% of the larger figure when seasonal cannery workers are included. The population of King Cove has very few residents over 60, but based on field observations there appear to be sizable cohorts in the 50-60 and 40-50 age brackets. No detailed age breakouts are available.

The ethnic composition of King Cove is overwhelmingly of Aleut derivation. The 1970 census reported the community as 80% Aleut while the most recent comprehensive plan puts the figure at "in excess of 89%." The Aleut population has had two major episodes of intermixture with other ethnic groups. Russian names give evidence of the intermarriage of Aleuts with Russians in the 18th and 19th centuries, while Scandinavian and North European names reflect the influence of the salt cod and salmon fishermen who arrived in the area in the late 19th and early 20th centuries. The population derived from Belkofski, False Pass and Akutan tend to have Russian surnames while those from Sanak, Ikatan and King Cove proper tend to have more Northern European surnames.

Sex distribution in the community follows that of rural Alaska in that males outnumber females. The imbalance in King Cove based on the 1980 census is 53% male (249) and 47% female (218). The pattern is the result of differential immigration and marrying patterns in that more King Cove women than men marry outside the community whereas more nonlocal males than females take up residence in King Cove.

King Cove's rapid growth is reflected in the number of new households in the community. Table 4.2.4 summarizes King Cove household size distribution in 1980 and 1981. The 23% increase in the number of households from 1980 to 1981 and the resulting drop in average household size, despite an overall 7% increase in the resident population, is a result of 22 new HUD-financed homes being occupied in the Ram's Creek subdivision southeast of King Cove proper. A number of youngermililies who had previously been living with their parents were able to set up independent households and this is reflected in the large increase from 1980 to 1981 in the number of households with three and four members. Despite the new housing, the average household size of King Cove continues to high relative to other Alaska Peninsula communities.

Table 4.2.3

## KING COVE SCHOOL AGE POPULATION, 1980-1981

Approximate Age	Grade	Number
17	12	2
16	11	12
15	10	10
14	9	6
13	8	4
12	7	10
11	6	7
10	5	12
9	4	2
8	3	12
7	2	7
6	1	8
5	Kindergarten	9
4	Preschool	11
Total:		112

Table 4.2.4

## KING COVE HOUSEHOLD SIZE, 1980-1981

Household Size	Number of Households	
	1980	1981
1	1	6
2	12	14
3	17	30
4	20	32
5	22	16
6	13	16
7	5	3
8	3	1
9	2	2
10	1	0
11	1	1
12	1	0
13	1	0
14	0	1
Total	99	122
Mean	4.72	4.10

#### 4.2.3 King Cove Socioeconomic Organization

##### Fisheries: Commercial Harvesting

**General Overview: Strategies and Species.** Commercial fishing, both harvesting and processing, is the economic mainstay of King Cove. Local fishermen have been primarily salmon fishermen for the past 60 years. In the early years of the century, a salt cod fishery was important to the area and the settlements of Sanak and Thin Point were closely tied to this enterprise. By 1940, however, this fishery had died out due to costs and decline in demand. In the late 1950's king crab became an important secondary resource for the fishermen; however, the number of local men and vessels participating in this rugged fall-winter fishery has always been fewer than participate in the salmon fishery. Beginning in 1967 and peaking in 1973-74, Tanner crab was also added to the King Cove fisheries.

There are basically four strategies of gear combination which King Cove fishermen pursue, each of which will be briefly discussed. The four strategies are:

- a) Drift gillnetting, combined with beach seining and/or limit seining
- b) Drift gillnetting, beach or purse seining, and crabbing
- c) Limit seining and crabbing
- d) Drift gillnetting

It should be noted that although a number of set net permits are held by King Cove residents, this gear type has been used by very few (less than five) King Cove residents in the last three to five years. The reason for this is apparently that there are few suitable sites for it in close proximity to King Cove.

Strategy A is the most prevalent being practiced by 25-30 vessels; this is the combination of drift gillnetting with beach seining. There are a number of variations of this strategy which differentially combine areas fished, time periods, and gear types. The modal pattern is one in which drift gillnetting is pursued at East and West Anchorage areas in June and beach seining is conducted on the southside of the Alaska Peninsula during July and August. The King Cove beach seine fleet in most years does not fish east of Pavlof Bay. A second pattern which has emerged in the past four years is to drift gillnet in the False Pass fishery during the month of June, then travel to the Port Moller area to drift gillnet for two or three weeks before returning to the southside to get

ready for beach seining during the last of July and August.

Strategy B combines drift gillnetting with beach seining and crabbing. There are six vessels engaged in this fashion. Their basic seasonal round, with one exception, appears to comply with the modal pattern noted for strategy A only with crabbing appended as an additional fishery.

Strategy C, limit purse seining combined with crabbing is a relatively recent specialization at King Cove, and is carried out by 5-6 vessels. Limit seining refers to purse seining on large (50 foot or greater) vessels using deep seines, and deep aluminum skiffs powered by 200-300 horsepower diesel engines. Fishermen pursuing this strategy fish primarily in the Unimak or False Pass fishery during the month of June in the area from Cape Lutke to Cape Lazaref. However, they may on occasion visit the Popof Head fishery in the Shumagins which is also open in June. The first 2-3 weeks of July are generally a slack period during which fishing activity is sporadic with efforts being made in the eastern part of the district from Pavlof Bay to the Shumagins. By the latter part of July fish will begin to appear off the Shumagins as they make their way inshore in large schools. These deep water locations are where limit purse seiners retreat to in the outer portions of the bays to continue fishing.

A slight variation in strategy C is to use the limit complex (deep seine, aluminum skiff) in deep waters only and then shift to the traditional beach complex (shallow seine, two wooden skiffs with outboards) in shallower water near the streams. In the latter case the large vessel will be used as a tender, anchored near where the fishery is taking place, and also be used as living quarters by the fishermen. During the summer of 1981 a limit seiner was witnessed changing from its limit seine complex to its beach seine complex prior to an opening in the latter part of July. However, during the afternoon of the first day of the opening, the vessel returned to King Cove and the captain and crew shifted back to the limit seine complex because they discovered that the fish were still in deep water.

Following the closing of salmon season, salmon gear is removed, crab pots repaired and the vessels readied for the King crab season which has typically opened in September or October. Several vessels also participated in the Tanner crab season which follows the king crab season, usually starting in November, but in recent years not until after the first of the year.



Strategy D, drift gillnetting as the single fishery pursued during the entire salmon season, was followed by approximately five to seven fishermen during the 1981 fishing season. Fishermen pursuing this strategy fish in the Unimak fishery (also known as the False Pass fishery) during the month of June concentrating in the East and West Anchor Cove areas. Following closure of that fishery they then travel north to the Port Moller area to fish during July, August, and in 1981, on into September in a few cases. This strategy is a fairly new one for King Cove residents and is pursued by fishermen who hold only a drift gillnet permit or who transfer their purse seine permits to others to use.

As naturally follows from the previous discussion, salmon and crab species make up the vast majority of King Cove fishermen's commercial harvest. Of the salmon species pinks make up the majority of the poundage and value for King Cove fishermen, and are primarily caught on the southside by purse seines. Sockeye or red salmon are second in poundage and value being caught by both purse seiners and drift gillnetters in the False Pass fishery, by purse seiners in the Shumagin June fishery, and by drift gillnetters in the July and early August Port Moller fishery. Chum or dog salmon are the third most important salmon species, the majority of them coming from southside streams. A few silvers are caught by seiners as they return to southside streams. There are no southside king salmon runs so that the few which King Cove fishermen take are caught primarily in the False Pass fishery with a few stragglers from the June king run at Port Moller perhaps being caught in July.

Of the crab species, red king, blue king and both opilio and bairdi varieties of Tanner crab are caught by King Cove fishermen. Virtually 100% of their crab catch is taken from the southside with most of that coming from the South Peninsula area. They do, however, occasionally travel west to the Unimak Bight, Akutan and Unalaska areas of the Eastern Aleutians.

There are also several other species which have been or presently are being pursued in some limited fashion by King Cove fishermen. As mentioned previously, Pacific cod was caught and salted early in the century but at present are not fished at all. There is significant evidence, though, that this species, which suffered biological collapse in the 1950's, is now recovering. One of the best indicators of this is a request by the Japanese longliners to the North Pacific Fishery Management Council to have the Davidson Bank, a famous Pacific cod fishery grounds in the vicinity of Sanak Island, opened to their efforts. Recent estimates by the National

Marine Fisheries Service suggest that the cod buildup will reach its peak in 1983 and decline gradually after that time.

Halibut are also available in waters near King Cove, but involvement in this fishery by local residents has been extremely spotty over the years. It appears to be a fishery of last resort which King Cove fishermen turn to only when disaster has struck the salmon and crab fisheries.

Herring are also available in the King Cove area, and although they are not a traditionally pursued species, they have been commercially caught in recent years.

For example, in 1979 ten tons were commercially harvested in King Cove lagoon and another ten tons in Pavlof Bay. Both catches were made during July and had high sac roe content. One obvious difficulty with the potential for a herring fishery is its time of occurrence, since both fishermen and processors are oriented toward salmon at that time of the year.

There are also other potential groundfish fisheries in the area some of which have never been tapped by American fishermen. Sablefish and rockfish are bottomfish species that have seen some harvesting (although not by local fishermen), while pollock, Atka mackerel, Pacific ocean perch, squid, and approximately ten species of flounder have heretofore been virtually unharvested by King Cove or other American fishermen.

Limited Entry Permits. The State of Alaska's enactment of a limited entry program in 1973 has had a highly beneficial impact to date on King Cove fishermen. Permits for salmon fishing in the Alaska Peninsula district are for purse seining (no distinction between beach and purse seining is made), drift gillnetting, and set gillnetting. Permanent permits were first awarded in 1975 when the majority of King Cove fishermen received them, although a number of permits have been awarded since that time through the appeal process.

As of early 1980, King Cove residents had the following salmon permit holdings in the Alaska Peninsula area: 36 purse seine, 37 drift gillnet, and 12 set gillnet, or 85 permits held by a total of 45 individuals. The permits were highly concentrated by comparison to most other fishing areas of the state as the summary of permit holdings presented in Table 4.2.5.

These concentrations produce an average of 1.89 permits per holder and the primacy of the drift gillnet-purse seine

Table 4.2.5

KING COVE PATTERNS OF LIMITED ENTRY PERMIT HOLDINGS  
1980

<u>Permit Holding Pattern</u>	<u>Number of Cases</u>	<u>Total Permits</u>
Purse Seine, Drift Gillnet, Set Gillnet	8	24
Purse Seine, Drift Gillnet	22	44
Purse Seine, Set Gillnet	0	0
Drift Gillnet, Set Gillnet	2	4
Purse Seine	6	6
Drift Gillnet	5	5
Set Gillnet	<u>2</u>	<u>2</u>
TOTAL	45	85

strategy is readily apparent from this tabulation. In addition 17.8% of holders held three permits, and 53.3% held two permits, while only 28.9% held only a single permit. There were no female permit holders in King Cove in 1980.

Langdon (1980) reported on a statewide basis that rural permit holders had "lost", i.e., transferred to nonrural fishermen, permits over the period 1975-1979. This appears not to be a serious problem in King Cove as casual review of transfer data indicated a loss of only two permits since 1975.

Permits in Alaska Peninsula fisheries show different patters of transfer rate from one year to another. Over the period 1975-1979, 36.5% of all salmon permits in Alaska were transferred. Alaska Peninsula drift gillnet permits had a rate of 41.7% over the same period which was comparable to rates found for fisheries in more urban areas of the state such as Cook Inlet and Southeast. On the other hand, only 29.9% of purse seine permits and only 30.9% of set gillnet permits had been transferred. For these fisheries, the Alaska Peninsula permit holders appeared more similar to the Arctic-Yukon-Kuskokwim fisheries participated in by rural, predominantly Eskimo western Alaska villages where rates of transfer were low, in some cases below 20%. The higher rate of permit transfer in the drift gillnet fishery may be partially explained by the fact that 40% of the permit holders were not residents of the Peninsula while the comparative figure for the purse seine fishery was 15% and for the set gillnet fishery it was 16%.

Areas and Times Fished. The Alaska Peninsula area, known as Area M, is divided into a number of districts and statistical areas as presented in Exhibit 3.1. The areas fished and the respective times in which they are fished show substantial variability by gear type and season. This discussion will deal only with the location of salmon fishing activities since it was discovered during fieldwork that no significant use is made of the northside of the Alaska Peninsula by King Cove fishermen for crab fishing. The discussion will be organized by time and strategies discussed earlier with important qualifiers noted.

Salmon fishing in the Alaska Peninsula area has begun in recent years on May 1 for most districts on the northside of the Peninsula and on June 1 for all the southside districts. There are weekly openings and closings for salmon fishing in addition to this general seasonal opening. On the northside, most areas have standard weekly openings during the season

with minor differences in timing between subareas. On the southside, districts are only opened on an emergency basis by ADFG personnel.

Despite these formal regulations, fishing does not start until the fish arrive, the fishermen are able to fish, and the processors are ready to handle the fish. In King Cove fishing gets a gradual start during the first days of June with the June peak of the fishermen's efforts, for both drift gillnetting and purse seining, being concentrated in the South Unimak fishery from the 15th to the 25th.

Following the end of the South Unimak fishery in June, the majority of the King Cove fleet returns to King Cove to change over to beach seine gear. They then begin to scout the outer areas on the southside for sign of returning pink and dog salmon as districts are opened by Department of Fish and Game personnel. An occasional limit seiner will go to the Shumagins but for the most part effort is concentrated from Morzhovoi Bay to Coal Bay. This pattern will occupy the majority of the beach seine fleet for the months of July and August.

Several interesting characteristics of the southside pink salmon fishery lead to different areas being fished in different years. One of the major factors is that in odd years there is virtually no pink run west of King Cove which concentrates the gear to a greater extent in eastern portions of the district. Another interesting feature is that tremendous production from streams on Deer Island frequently produces a major portion of the catch for the King Cove fleet. In addition, different areas will experience large concentrations in some years and not in others. For example in 1980, the "hot spots" were Deer Island, King Cove, Belkofski Bay, and Volcano Bay while in 1981 they were Pavlof Bay and Coal Bay.

The other beach seine adaptation which takes place during July is the movement of King Cove vessels to the Izembeck-Moffett Lagoon areas for dog salmon fishing. This normally takes place from about the tenth of July to the first week in August when the vessels will return to the southside to participate in what is left of the pink fishery. A minimum of four King Cove boats, three of which are skippered by brothers, participate in this fishery every year no matter what the prediction. In years with good predictions, the number of King Cove participants might climb to 10-12.

The Izembeck-Moffett fishery is considered difficult and frustrating. It is conducted in very shallow water which

often requires that a big set be towed a considerable distance from where the skiffs make the catch to either the tender or the main fishing vessel. The shallow water fouls the outboard motors causing continual mechanical difficulties. Finally, a strong southeast wind blowing across Cold Bay makes both areas unfishable due to the turbidity it induces which makes the fish unobservable and the water too rough to work in.

Another pattern is followed by the two groups of drift gillnetters who, after finishing with the South Unimak fishery, proceed to Port Moller. Those who stay at Port Moller for the remainder of the season concentrate most of their efforts from Cape Seniavin down to Port Moller. During a two-week stretch in mid-July, 50% of the Port Moller fleet concentrate in the area from Three Hills up to Ilnik. Later on, during the last week of August and first week of September, the few remaining drifters in the area may go past Port Heiden as far as the Cinder River to catch silvers.

The drifters who fish the Port Moller area for several weeks before returning to the southside to beach seine for pinks fish in the same general area as other gillnet fishermen fishing out of Port Moller.

In spatial terms, the vast majority of drift gillnetting on the northside is done right on the beach. The best spots around the mouths of Bear and Sandy Rivers are generally right on the edge of the breakers so that on occasion a captain who has made a slight miscalculation in laying out his gear may find himself pitched up onto the beach by the surf. The beach purse seining done in the Izembeck-Moffett area all takes place inside the lagoon proper and not in the Bering Sea.

**Fleet Characteristics.** The recent prosperity of the Alaska Peninsula salmon fisheries is abundantly evident in the King Cove fleet which has undergone substantial upgrading in the past three years. As Table 4.2.6 indicates, 23 new vessels or 43% of the total fleet have entered in the past three years. Furthermore, 54.7% of the fleet is five years old or less. These new boats tend to be larger than the older boats reflecting the trend to diversification of vessels for crabbing and limit purse seining. Of the 22 vessels 40 feet or longer, 15 or 68% are less than five years old. In addition to being larger, a high percentage of the newer boats have tanking capacity and are therefore equipped to go crabbing. Nearly two-thirds of all vessels constructed in the last four years have included live tanking capacity. Newer vessels are overwhelmingly of fiberglass construction and most include nearly the total range of electronic devices available--radar, radios (VHF, UHF), depth recorders, and

Table 4.2.6

## KING COVE FISHING VESSEL AGE AND LENGTH, 1981

Length (ft.)	81	80	79	78	77	76	75	74	73	72	71	70	69	68	Pre- 68	Total
28-30		1										1				2
31-33			1					2			1	1				5
34-36			2			1		1	1	1	1			1	3	11
37-39	2	1	6		1				2							9
40-42		1	3	3	2											9
43-45	1														1	2
46-48	1	1	2												1	5
49-51									1							1
52-54														1		1
55-57		1										1				2
58-60						1										1
over 60															1	1
Total	4	5	14	3	3	2	0	3	4	1	2	3	1	1	7	53

Loran. The value of vessels constructed in the past three years has shot up dramatically due to inflation, interest rates, labor and material costs. Vessels in the 56-58 foot class are valued at \$600,000; those in the 48-54 foot class at \$400,000; those in the 38-42 foot class at \$200-250,000, and those in the 32-36 foot class at \$100-140,000. These values vary based on whether they are equipped with live tanks or not and which manufacturer built them. Table 4.2.6 summarizes data on the age and size of vessels making up the resident King Cove fleet.

Fishing gear has similarly increased in cost over the past three years and represents a significant proportion of the fishermen's total investment in his enterprise. Present gear costs for different strategies in King Cove are presented in Table 4.2.7.

One of the ways in which this dramatic trend of vessel upgrading and diversification has taken place is through use of the state's Commercial Fishing Loan program which first went into effect in 1974. As shown in Table 4.2.8, King Cove fishermen have actively pursued state loans to upgrade their vessels.

In the past year and a half, the majority of the state loans have been shifted to the Commercial Fishing and Agricultural Bank and private banks are now a more frequent source of financing than in the late 1970's.

In sum, the King Cove fleet has been rapidly upgraded and diversified in the past five years due largely to a combination of good fishing seasons and readily available state funds for loans. The fleet, however, continues to be primarily oriented to the salmon fisheries and to local crab fisheries. King Cove vessels are not equipped at present to participate in the Bering Sea crab fishery or in bottomfishing.

Vessel Economics. The Alaska Peninsula salmon fisheries have been extremely profitable for the last four or five years, as was apparent from the discussion of the characteristics of the King Cove fleet. Table 4.2.9 presents modal information on the economics of the different salmon gear types operating on the Alaska Peninsula from 1969-77. They are illustrative in that they provide an indication about how profitable these fisheries have been in the past as well as a sense of what net returns and crew shares look like as they are derived from gross earnings.

King Cove drift gillnet crewmen reported receiving 20% of



Table 4.2.7

## KING COVE FISHING GEAR ESTIMATED COSTS, 1981

## 1. Purse Seining

a. Limit Purse Seine			
250 fathom purse seine	\$ 30,000		
150 fathom lead	3,000		
16-20' aluminum skiff with diesel engine	30,000		
Power block	3,000	Total, \$66,000	
b. Beach Seine			
250 fathom seine	8,000		
Seine skiff (24')	3,000		
End skiff (18')	2,000		
40 hp outboards (2)	4,500		
Power block	3,000	Total, \$11,000	

## 2. Gillnetting

a. Southside			
Reel and hydraulics	5,000		
200 fathoms, 150 mesh	6,000	Total, \$11,000	
b. Northside			
Reel and hydraulics	5,000		
200 fathoms, 50 mesh	4,000	Total, \$ 9,000	

## 3. Crabbing

Vessels range from a low of 50 pots or \$15,000 in pots to a high of 225 pots or \$67,500 in pots.

- a. \$200/pot (varies depending on species and type of construction)
- b. \$50/buoy and line per pot
- c. \$50/transportation

Table 4.2.8

## ALASKA STATE COMMERCIAL FISHING LOANS: KING COVE

<u>FY</u>	<u>Number of Loans</u>	<u>Value of Loans</u>
1974	1	\$ 100,000
1975	0	-
1976	0	-
1977	3	84,635
1978	2	212,350
1979	9	674,250
1980 (partial)	2	94,000
	<hr/>	<hr/>
Totals:	18	\$ 1,165,235

TABLE 4.2.9

ESTIMATES OF ALASKA PENINSULA SALMON FISHERY  
GROSS EARNINGS, COSTS AND NET EARNINGS BY GEAR TYPE  
1975 - 1977

Permit Type	1975	1976	1977
<b>Purse Seine</b>			
Average Gross	7,732	33,837	28,210
Less Costs <sup>1</sup>	3,729	5,972	7,802
Net Earnings	4,003	27,862	20,402
Crew Share (34.2% of gross)	2,645	11,575	9,650
Return to Operator	1,358	10,287	10,758
<b>Drift Gillnet</b>			
Average Gross	7,771	17,041	19,075
Less Costs <sup>1</sup>	6,396	8,267	8,675
Net Earnings	1,375	8,774	10,400
Crew Share (23.4%)	1,821	3,993	4,469
Return to Operator	-446	4,781	5,931
<b>Set Gillnet</b>			
Average Gross	3,277	6,546	10,104
Less Costs <sup>1</sup>	4,011	5,016	5,346
Net Earnings	-734	1,529	4,758
Crew Share (38.5%)	1,262	2,521	3,891
Return to Operator	-1,996	-992	-867

<sup>1</sup> Operating, fixed, and capital costs

Source: Rogers and Kreinheder 1980

the vessel's gross earnings if they were experienced and 15% if they were not. If a third crewman is used, which is quite rare, he would get 10-15% depending on experience. One Belkofski captain reported paying 22-1/2% of the net (after deducting vessel expenses) each to his oldest son and brother. This higher rate of pay is a reflection of the strong kinship bonds which continue to be characteristic of King Cove.

On the beach seine units, 50% of the gross goes to the owner of the boat and 50% to those who work on it. When it is a three-person crew, each of the two crewmen gets 15% and the captain 20% of the gross. Distribution with a four-person crew appears to vary from a 20% for the captain and 10% for each of the crew pattern. It should be noted that these crew share figures are somewhat higher than those presented in Table 4.2.9. One reason for this may be that the figures reported in the Table are from a period when beach seining was the predominant adaptation. The growth of limit seining since 1977 may be the reason that the more recent figures reflect higher percentages to the crew. The main reason for this is the larger number of crewmen required by the limit vessel (four to six) over the beach seine vessel (one or two).

**Crew Composition.** The different fishing strategies require different complements of crew. The limit purse seine effort normally is a six person operation but can be carried out with either five or seven. Beach seining is normally done by three people, although it can be accomplished by two to four as well. Drift gillnetting normally requires a two-person effort but it can be and often in family situations is done by three, four, or five persons. Set gillnetting is also typically a two-person effort.

Crabbing involves four-person crews on larger vessels (over 50 feet) and three person crews on smaller vessels (under 50 feet). The Fishery Management Plan for Tanner crab reports that 3.5 is the average number of crewmen in the South Peninsula area which is congruent with the roughly equal split between King Cove vessels over 50 feet and those under 50 feet participating in the crab fisheries (NPFMC 1978).

King Cove salmon vessels are manned by predominantly local crews with between 80-90% of crew positions being filled by King Cove residents. Only on several of the larger limit purse seiners are there positions for nonlocals with the majority of them coming from the Seattle area. There are a few nonlocal crewmen from the nearby communities of Sand Point, Akutan, and Unalaska but they are incidental.

In addition to being local, it also appears that King

Cove salmon fishing crews are comprised primarily of kinsmen with nuclear family patterns being predominant. Fathers normally have their sons for crewmen, but in several cases daughters and wives may also be aboard as crewmen. Brothers also frequently fish together. Other kinsmen who appear to makeup the majority of crewmen are cousins and in-laws. Friends and other King Cove residents seem to be preferred as crewmen before nonlocals unless the outsider has some special relationship with the community, i.e., teacher, son of Peter Pan executive, etc.

Crewmen generally are young men in their teens and twenties. Some of them are married and have young children. Sources indicated that a young man could purchase a house and support a family on an average or above average crew share from salmon fishing during the past four seasons. The few women who crew (less than five) tend to be teenage daughters or the captain or captains' wives whose children are all grown.

In the crab fishery, crewmen tend to be older men, some of whom operate their own vessels during salmon season. A large percentage of them are not King Cove residents. Sources indicated that it has been getting increasingly difficult in recent years to get good, experienced crab crewmen from King Cove because of the prosperity of salmon fishing and the resulting lack of incentive to participate in the cold, dangerous and exhausting crab fisheries.

In sum, crew patterns in King Cove show a strong kinship-localistic quality, particularly in the salmon fishery, where young men tend to fish with their fathers or other kinsmen.

Landings and Earnings. Salmon landings and earnings of King Cove fishermen have improved significantly and fairly steadily over the period from 1975 to 1980. Table 4.2.10 displays the aggregate annual salmon catch taken by King Cove fishermen from 1975 to 1979. The community aggregate average annual salmon catch for the period was 51 million pounds. The average gross earnings over the same period from salmon for the community as a whole was \$2.1 million. Based on an average of 33 gear operators per year, these figures translate into an average catch of 155,000 pounds worth \$63,152 per gear operator.

The degree of change experienced in the salmon fishery over this period is best revealed by comparing performance in 1975 (the worst year) with that of 1979 (the best year). In 1975 total salmon landings were 528,000 pounds worth \$193,000

Table 4.2.10

## KING COVE TOTAL SALMON LANDINGS AND EARNINGS

1975 - 1979

	1975	1976	1977	1978	1979	Average
Number of Gear Operators	28	30	32	37	40	33.4
Total Landings (1,000 pounds)	528	4721	2710	8666	8949	5115
Total Earnings (\$1,000)	193	1340	904	3295	4682	2083

for a per gear operator average of 18,857 pounds worth \$6,893. Comparative figures for 1979 show nearly 17 times the total landings at 8,949,000 pounds worth more than 24 times as much at \$4,687,000. On a per operator basis, the 1979 figures translate into 271,182 pounds of salmon worth \$120,179, 17 time the 1975 level. In addition, the salmon fleet was nearly 40% larger in 1979 than it was in 1975 with the 28 gear operators in the early year growing to 39 in 1979.

Aggregate and average catch and earnings figures mask significant dimensions of variability in the performance of King Cove fishermen. In 1975, the lowest catch was 1,400 pounds and the highest was 38,000 pounds; this produces a range factor of 12 between the highest and lowest fishermen. For 1979 the comparative figures were 25,100 pounds at the low end and 480,000 at the high end for a range of over 19.

Significant variability can also be found between gear type strategies pursued by King Cove fishermen. Table 4.2.11 presents average earnings by fishing strategy from 1975 to 1979. Although the general trends are weak, it appears that purse seine fishermen (Types II, V) have improved their position relative to that of drift gillnet fishermen (Type VI) over the period. This is partially a reflection of the increasing portion of the June south Unimak fishery being harvested by purse seine fishermen and due to significantly better pink returns from 1978 on. The King Cove fishermen's preferred strategy of drifting in the south Unimak fishery and purse seining later for pinks is reflected in the fact that King Cove purse seine fishermen's gains over drift gillnet fishermen are not as substantial as the overall purse seine gain over drift gillnet in the False Pass fishery as was noted in the earlier discussion of statistical area harvest patterns presented in section 3.1.

King Cove fishermen's second important source of earnings comes from King and Tanner crab. Over the period 1975 to 1979 salmon produced 65% of total community fishing earnings while crab produced 35%. Table 4.2.12 summarizes information on harvest statistics by King Cove fishermen over the period 1975-79. Interestingly, although there is a steady increase in the number of King Cove vessels obtaining licenses to harvest crab resulting in nearly three times the number licensed in 1979 (32) as in 1975 (11), there is no increase in the number of vessels making landings during the period. The increase in the number of licenses is likely due to possible limited entry in crab and expectations about fishing crab. However, since 1976 there has been a steady drop in total crab landings although earnings grew by 53% from 1976 to 1978 due to sharp price increases. The precipitous drop in crab landings

Table 4.2.11

## KING COVE FISHERMEN'S AVERAGE SALMON LANDINGS AND GROSS EARNINGS BY GEAR TYPE, 1975 - 1979

Gear Type	1975	1976	1977	1978	1979	Average
Type I: PS, DG, SG						
Gear Operators	(0)	(1)	(1)	(0)	(2)	N/A
Average Landings (lbs.)		272,160	98,130		370,271	
Average Earnings		\$ 75,556	\$ 34,998		\$183,041	
Type II: PS, DG						
Gear Operators	(16)	(19)	(19)	(27)	(25)	(21.2)
Average Landings (lbs.)	21,522	211,789	102,470	280,380	250,013	173,235
Average Earnings	\$ 7,326	\$ 58,019	\$ 32,834	\$102,782	\$119,058	\$ 64,009
Type III: PS, SG						
Gear Operators	(0)	(0)	(0)	(0)	(1)	N/A
Average Landings (lbs.)					25,147	
Average Earnings					\$ 16,697	
Type IV: DG, SG						
Gear Operators	(0)	(0)	(1)	(1)	(1)	N/A
Average Landings (lbs.)			71,071	107,614	114,886	
Average Earnings			\$ 38,626	\$ 79,773	\$127,612	
Type V: PS						
Gear Operators	(3)	(2)	(6)	(4)	(5)	(4)
Average Landings (lbs.)	12,911	43,599	56,453	188,958	269,246	113,341
Average Earnings	\$ 4,634	\$ 11,772	\$ 17,017	\$ 63,253	\$135,619	\$ 46,459
Type VI: DG						
Gear Operators	(9)	(8)	(4)	(4)	(5)	(6)
Average Landings (lbs.)	16,745	42,176	39,613	64,301	75,814	47,612
Average Earnings	\$ 6,841	\$ 14,407	\$ 23,810	\$ 46,621	\$ 86,652	\$ 35,666
Type VII: SG						
Gear Operators	(0)	(0)	(1)	(1)	(0)	N/A
Average Landings (lbs.)			37,774	1,544		
Average Earnings			\$ 12,896	\$ 947		

PS-Purse Seine; DG-Drift Gillnet; SG-Set Gillnet.



Table 4.2.12

## KING COVE CRAB HARVEST STATISTICS, 1975-1979

	1975	1976	1977	1978	1979	Average
Crab Licenses by Vessel Length:						
Over 50 feet	4	4	5	10	15	7.6
Under 50 feet	7	9	10	12	17	11
TOTAL	11	13	15	22	32	18.6
Fishermen Making Crab Landings:						
Total Landings (1,000 pounds)	1382	2335	2296	2178	1238	1886
Total Earnings (\$1,000)	467	1073	1342	1640	1031	1111
Range of Landings (1,000 pounds)						
Low	2	1.8	17.3	15.4	4.2	8.1
High	726	663	637	425	339	558
Average	126	212	191	198	113	168
Range of Earnings (\$1,000)						
Low	.8	1.2	5.6	7.3	4.2	3.8
High	254	401	605	527	261	410
Average	42	98	112	149	94	99

Source: Commercial Fisheries Entry Commission

and earnings in 1979 would appear to be a function of the highly successful salmon season more than a decline in crab stocks.

The dramatic reversal of the relative contribution of crab and salmon to the King Cove economy over the period 1975 to 1979 is illustrated by comparing their respective contributions to totafishing earnings. In 1975 crab and salmon combined brought \$660,000 of which crab provided 71% and salmon 29%. In 1978 crab earnings were \$1,690,000, a little over three and one-half times what they were in 1975, but they accounted for only 33% of total fishing earnings since salmon earnings had jumped to \$3,295,000 in 1978 from \$193,000 in 1975. In 1979 the dominance of salmon earnings was even more pronounced as crab earnings fell to only 18% of total community fishing earnings.

These findings indicate a complex, complementary relationship between crab and salmon harvesting by King Cove fishermen. The overall welfare of the community is significantly enhanced by having two high value species to harvest as can be seen by the role of crab in the economy in the first two years of the period. At the same time there appears to be an income threshold effect in that effort on crab seems related to salmon earnings. When salmon earnings reach a certain high threshold, it appears that King Cove fishermen efforts to catch crab during the harsher fall and winter seasons drop off.

One final point should be noted concerning the relative contribution of crab and salmon to King Cove residents. Despite the importance of crab at the total community level of earnings, it should be recognized that salmon is considerably more important at the household level. Salmon earnings are more widely and evenly distributed than are crab earnings. This is revealed by the fact that there was an average of 33 salmon units operating over the period 1975 to 1979 in comparison to only 11 crab units.

#### Developmental Trends

Vessels. As noted previously, the trend for King Cove fishermen in the last three years has been to larger vessels that retain the flexibility to be used for both drift gillnetting and beach seining with the additional ability for crabbing with live tanks. Some vessels in the 44-48 foot class appear also to be able to engage now in the limit purse seine fishery at South Unimak in June.

In the past King Cove fishermen have drifted at Unimak

but the increasing number of limit seiners fishing that area has cut into the portion of the quota taken by drift fishermen. Whereas the split was 60-40% favoring the seiners in the early 1970's, since 1978 there has been a significant shift so that now 80% of the quota is being taken by purse seiners and only 20% by the gillnetters. This phenomena is stimulating King Cove fishermen's adaptational skills and four (two technological, one interactional and one regulatory) responses have appeared thus far: 1) purchase a limit seine vessel and gear, 2) purchase a limit seine and large skiff and purse seine with limit gear rather than drift in the Unimak fishery, 3) attempt to establish a formal regulatory quota between the two gear types, and 4) as drifters compete with seiners in locations in the South Unimak fishery seiners normally have to themselves.

One of the tendencies not apparent at King Cove is to purchase larger 90-120 foot vessels to participate in the Bering Sea crab fishery and potentially move into bottomfishing. There are several individuals and partnerships who have invested earnings of the past several seasons in new boats but they are vessels of the same basic capabilities (drift gillnetting and beach seining) which have been leased out to other fishermen. Another alternative is to purchase a special boat designed only for drift gillnetting which might be leased.

Areas. As noted previously, King Cove drift gillnet effort has expanded dramatically into the northside Port Moller fishery in the past four to five years. One of the major reasons for this is the fact that the Peter Pan processing operation at Port Moller was closed for several years only reopening as a cold storage during the past three years. In the mid-1960's the Port Moller fishery was operated as a fiefdom in that Peter Pan would set the number of vessels who would be allowed to fish after consulting with ADF&G personnel and the Board of Fisheries.

Recent seasons have seen two other interesting developments of area expansion by purse seiners. In 1979 and again in 1981 at least one King Cove seiner attempted (with little success) to fish Frank's Lagoon, just north of Port Moller, an area which had not been fished by purse seiners since the mid-1960's. More importantly, however, was the appearance and success of several (two to four) King Cove beach seine vessels in Herendeen Bay fishing for dog salmon. This area is normally only fished by two vessels out of Nelson Lagoon from about July 15 to July 25.

Although several of the King Cove vessels will fish

occasionally at Popof Head in the Shumagins in June and early July, there does not appear to be a major thrust into the eastern portion of the area by King Cove fishermen.

**Gear.** King Cove fishermen have begun purchasing large, deeper seines to allow them to purse seine in the South Unimak Fishery. Those that have recently purchased vessels with live tanking capacity have generally purchased additional or new king crab pots. Drift gillnetters have added "northside" gear so they can fish the Port Moller area. Improved electronic gear will no doubt continue to be added to vessels.

**Permits.** There are two major trends in this area. The first of them is for purse seine and drift gillnet permits to be either formally separated, i.e. two distinct permit holders holding them or effectively separated such that both permits are being fished for the entire season. The emergence of a group of King Cove fishermen who drift gillnet only, unthinkable as a livelihood ten years ago, is evidence of the first tendency. Initial permit issuance put both a drift and purse seine permit in the hands of most King Cove fishermen in recognition of the pattern of fishing that emerged during the 1960's. As discussed earlier, this pattern continues to characterize the majority of King Cove fishermen, but a few have transferred one of their permits to a son or sold one of them.

The second tendency identified is for permits to be fished throughout the entire season. In the past when a King Cove fisherman drifted at South Unimak, his purse seine permit would not be fishing. However, now the King Cove fisherman who goes drift gillnetting might put his purse seine permit in his son's name and have the son fish aboard a limit purse seine vessel. On occasion those vessels are from Seattle or Bellingham. In 1981 a permit used in this fashion brought 20% of the gross earnings back to the permit owner. Alternatively, if the permit holder prefers to purse seine, then the drift gillnet permit would be put in the son's name and he fishes the season with a drift gillnet fisherman, often another resident of King Cove. One of the remarkable features of this pattern is that many King Cove fishermen make permanent transfers to other adult King Cove males for lease purposes with no apparent qualm about the other person returning the permit after the season. It should be made clear that State law precludes the possibility of foreclosing on a permit so that the person who holds a permit as a result of a permanent transfer for a season is under no legal obligation to return the permit. King Cove permit owners' willingness to take the risk would appear to be a testimony to the strength of moral relationships between King Cove

residents.

Despite the growth and diversification of the King Cove flet, there is no evidence that more permits are being purchased by King Cove fishermen. By the same token, it does not appear that King Cove fishermen are selling their permits either. Fishermen regard the Commercial Fisheries Entry Commission's valuation of Alaska Peninsula salmon permits as substantially below what they would accept for the permit. Consequently, there is at present very little permanent permit movement in King Cove because no one can raise the money to buy a permit.

**Species.** Although bottomfishing has been discussed as being a development opportunity for western Alaska fishermen and communities since 1978, there is little evidence of an interest in these fisheries by King Cove fishermen. Only one vessel has been equipped for dragging and that vessel was an older vessel which was not used in any salmon fisheries during 1981. Major reasons for this lack of interest include the relatively low prices, lack of processors, unfamiliarity with the technique, and the cost of dragging gear.

Pacific cod stocks have rebounded and a Norwegian processing company is presently engaged in a salt cod joint venture with several American draggers. This fishery has not attracted any King Cove fishermen due to low prices and no local processing.

The decline of Tanner crab populations both on the southside of the Alaska Peninsula and in the Bering Sea has caused the Peter Pan plant in King Cove to stop processing Tanner crab. Consequently, King Cove fishermen have not been able to target on Tanner crab during the winter.

Concern over the possibility of limited entry in halibut is strong in King Cove. This stems from two reasons. First, when salmon runs were weak in the early 1970's, many King Cove fishermen turned to halibut as a supplemental species. However, the shortening of the halibut season, its timing in June conflicting with the South Unimak fishery, and good salmon earnings, combined to drive King Cove fishermen away from halibut after 1976. Second, crewmen wishing to become vessel owners are at present unable to do so due to the high price of salmon permits. They perceive the possibility of limited entry in halibut as a major threat, closing a possible option for becoming vessel owners to them.

**Sum.** The response of King Cove fishermen to the growth of their population and their recent prosperity has been

primarily one of intensification, that is, doing more of the same thing, rather than diversification, doing new, additional things. The intensification response can be identified in three areas: larger vessels to fish in rougher water (fish more), geographic expansion into areas previously not fished for salmon before, and effort expansion by using all drift and purse seine permits for the entire season. The lack of diversification is noteworthy both in fisheries where no new gear or species are presently being incorporated and in other economic activities since there is no evidence that King Cove fishermen are entering into local non-fishing related businesses or making investments of this nature outside of King Cove. Specialization is a weaker trend than intensification but it is apparent from the tendency to lease permits and the growth in the drift gillnetting only strategy.

Efforts to intensify and specialize have also caused King Cove residents to expand their sphere of contacts for financing first through the State loan programs and more recently through private banks and the Commercial Fishing and Agricultural Bank (CFAB). The new levels of indebtedness for larger vessels are unprecedented in King Cove fishermen's pasts and so there is considerable anxiety about meeting boat payments. Thus far there have been no serious problems although sharp slumps in crab or salmon prices or catch levels might result in several vessel foreclosures.

#### Fisheries: Commercial Processing

History. King Cove was established as the site of a salmon cannery by the Pacific American Fisheries Company (PAF) in 1911 and has produced a pack of canned salmon nearly every year since that time. In the 1920's and 1930's the cannery obtained most of its fish from pile driven traps usually operating from 8 to 15 in a given year. Competition with other firms in the area (Pavlof Bay, Squaw Harbor, False Pass) as well as a degree of uncertainty in where the salmon would appear in any season led the cannery to develop a fleet of purse seine vessels to supplement their trap catch. Despite the existence of the purse seine fleet, traps continued to provide a large portion of raw salmon until they were outlawed in 1959. The outlawing of the traps stimulated King Cove fishermen to enter the South Unimak drift gillnet fishery where traps had been most effective, especially in the East Anchor area, and to intensify their purse seine efforts as well. As a result of King Cove fishermen's rapid diversification and adoption of drift gillnetting, the fleet of drift gillnetters operating at South Unimak increased from 20-30 in 1960 to 60-80 by 1969 (ADF&G 1970).

The severe decline which hit Alaska's salmon industry in the 1950s led to a number of consolidations and closings in the Alaska Peninsula area, but the PAF operation at King Cove survived, more than likely due to the fact that traps provided cheaper fish than did mobile gear. The subsequent decline in stocks which occurred in the late 1960s and early 1970s brought another wave of consolidation as PAF was first merged with the New England Fish Company in 1969 and a processing agreement established with Peter Pan in 1971. By 1974 the Peter Pan plant at King Cove was the sole operating cannery in the Alaska Peninsula area. Fish from all over the district were brought to the plant by tender. The New England Fish Company maintained a separate fleet of fishing vessels and tenders but continued the agreement with Peter Pan to process New England fish at King Cove. In addition to all the Alaska Peninsula area salmon, the King Cove plant also processed salmon from Bristol Bay, Chignik, and even Kodiak when runs in those areas were too large to be handled by canneries in those districts.

As noted elsewhere, King Cove fishermen began harvesting King crab in 1947. In those early years, deliveries had to be made to Sand Point due to the lack of crab processing in King Cove. This long trip coupled with the necessity of anchoring King Cove vessels out on the lee side of Deer Island when a southeast storm hit (lack of protection in King Cove proper), caused dissatisfaction among the King Cove fishermen. Dorothy Jones (1976:32) suggested that "in an apparent effort to prevent the emigration of its local salmon fleet to villages with a crab outlet or crab and salmon outlets, the ... plant did diversify to crab canning in 1958." King crab was the target of these first efforts with Tanner crab being added around 1967. Tanner crab production peaked in 1973 and 1974, perhaps in part as a response to the very poor salmon season in those years.

In 1976 the Peter Pan plant was partially destroyed by fire; however, this provided an opportunity to enlarge the facility as well as upgrade and modernize the crab and salmon operation. Although feasibility studies on bottomfishing processing have been done, no steps have been taken in that direction to date.

Peter Pan's King Cove plant processed in excess of 30 million pounds of raw product (salmon, crab) during 1979 and 1980. Table 4.2.13 summarizes data on exvessel value and landings and first wholesale value and product for 1979 and 1980. Peter Pan personnel estimated that 30% of the salmon and 10% of the crab processed in King Cove were purchased from local fishermen.

Aleutian Commercial employs 14 people including a number of teenagers on a part-time basis.

Smaller commercial concerns include an electronics equipment sales and service franchise, a number of small home businesses, a small cafe, a tavern, a motel, and an air taxi. There is one local construction contracting entrepreneur. Taken together, these enterprises employ approximately 41 people. As Table 4.1.13 summarizes, all non-fishery employment in Sand Point amounts to a total of 81 positions.

The private business sector, not including the utilities noted above, generated 1980 gross taxable receipts of \$2.9 million. Just over \$2.1 million of this is derived from Aleutian Commercial while the tavern, the next most important enterprise, had sales of approximately \$180,000.

Private businesses in Sand Point, then, provide a diversity of services and a volume of business beyond what might be expected for a population of less than 1,000 inhabitants. The scale of businesses in the community is influenced by the demands of transient fleets which stop at Sand Point to purchase supplies. A substantial number of Seattle-registered vessels use Sand Point as a base of operations, while many Bering Sea crabbers stop in the village for supplies during the winter. Non-local demands for goods and services will continue to play a role in the growth and development of the commercial sector in Sand Point.

In the view of several of the local entrepreneurs, the local commercial sector is not presently operating up to the level of current demand. They point to the lack of commercial space as the major constraint limiting the expansion of new businesses and the establishment of new ones. This view is supported by the case of the bank which opened in the Aleutian Commercial annex. Banking has long been a problem in the village and when commercial space was made available it was quite easy to find a bank interested in locating a branch in Sand Point. In this view, then, as more land for commercial development becomes available, the commercial sector will quickly expand to meet current demands. Over time the role of the community as the regional supply center will ensure that growth in any fishery in the region is followed by expansion in the commercial sector.

Based on other evidence, the 1980 Comprehensive Plan for the City of Sand Point makes a similar assessment. The ratio of secondary to primary economic activity is often taken as a measure of the degree of development of the commercial sector. In Sand Point the ratio of non-fishery to fishery employment



Table 4.2.13

## KING COVE SEAFOOD PROCESSING STATISTICS, 1979 - 1980

	Input	Output
1979 Salmon	25.7 million lbs.	13.3 million lbs.
	\$ 16.3 million	\$ 25.5 million
Crab	8.1 million lbs.	7.0 million lbs.
	\$ 6.3 million	\$ 11.6 million
1980 Salmon	24.0 million lbs.	15.5 million lbs.
	\$ 11.5 million	\$ 35.5 million
Crab	9.5 million lbs.	4.6 million lbs.
	\$ 7.8 million	\$ 11.7 million

Current Operations. The Peter Pan Company presently operates the King Cove plant as a subsidiary of Nichiro Gyogya Kaisha, a Japanese firm which purchased the company from the Bristol Bay Native Corporation in 1980. Operations in 1981 included canning and freezing of salmon, salmon roe processing, and king crab processing. Although Tanner crab has been processed in the recent past, the volume from present quotas does not allow costs to be met; so, for the time being, the firm has decided to stop that effort.

Peter Pan operates or charters approximately 19 tender vessels during the salmon season to transport fish from the fishing grounds to the cannery. Chilled brine or chilled sea water tanks allow the fish to be held for several days before processing. During the 1981 season, fish from Bristol Bay as well as those normally handled at the False Pass cannery were tendered to King Cove for processing.

During the 1981 season the plant operated two 1/2 pound lines (assembly lines which produced 1/2 pound cans of salmon), three "tall" (one pound) lines, and later converted their 1/4 pound line into a fourth one-pound line. These lines are highly mechanized and use suction pumps to transfer fish from tenders to the processing line. In addition a cold storage was in operation which produced a heads off fresh frozen product for the Japanese market. Finally, salmon roe was processed and packed at the plant.

The operation represented a virtual doubling of the size of the King Cove operation due to the burning of the False Pass cannery. In addition to the increased processing capacity, a new bunkhouse (trailer) was brought in, the mess hall expanded and extra laundry facilities added to accomodate the increased workforce necessary.

It is estimated that 30% of the salmon and 10% of the crab processed here is purchased from King Cove fishermen.

Employment Patterns and Working Conditions. The salmon processing workforce normally fluctuates during the course of the season as fish become available at different times. The workforce was at its peak of 339 in late June when fish from South Unimak and Bristol Bay were being processed at King Cove. By mid-July when Bristol Bay fish had stopped coming and local pinks had not appeared, the crew had dwindled to about 295.

The 295 workers were distributed to different duties. The canning line requires roughly 130 people and the fresh frozen plant needs 70. Approximately 12 people work in the

office and the remaining 80 are divided among the machinists, beach gang, culinary workers, and laundry workers. The plant is completely unionized with ILWU #37 out of Seattle supplying most of the labor for the processing. There are four other unions represented in the plant including the Alaska Fishermen's Union (machinists) and the Alaska Marine Carpenter and Shipwright Union among others. The company is free to hire as many Alaskans as apply, but their distance from centers of population inhibits Alaskan labor from being used. Consequently most of the labor force is flown in from Seattle.

The age range of the workforce is from 17 to 78 with older members of the workforce working primarily on the canning lines. The sex distribution shows approximately 225 males to 70 female workers. Ethnically the distribution was roughly 205 Filipino, 80 Caucasian, and 10 Aleut.

Only six Aleut women are considered to be steady workers from King Cove. Cannery management indicated that as many as 40 King Cove residents will start the salmon or crab processing season but they tend to drift away as husbands and boyfriends do well fishing. By the same token, some of the Caucasian workers from urban areas in the Pacific Northwest, unaccustomed to the maritime climate of the Aleutians and the nature of rural Alaskan villages, are unable or unwilling to work the 16-18 hour days. The most consistent component of the workforce is the Filipino population of which 85% return to King Cove from the previous year.

The present picture is a far cry from that reported by Jones (1976:37) based on her 1969 field work. She reported that 32 women in the community were steadily employed in the cannery and argued that their willingness to work endless hours was not motivated primarily by monetary reward but rather to insure that the company would not impose limits (ceilings) on the amount of fish their husbands could deliver during the peak periods of the salmon season (Jones 1976:40). There is no indication of any such need or commitment at the present time.

In 1969 the base wage paid for cannery workers in King Cove was \$2.00 an hour for imported labor and \$2.67 an hour for local labor. The differential resulted from the fact that room, board, transportation and a guaranteed minimum were provided for imported labor bringing actual costs to the firm to \$4.00 an hour (Jones 1976:39). Clearly there was an incentive to hire and retain local labor because it was less expensive. Consequently, management made social concessions to the Aleut female workforce to retain them, including

preferential local hire and establishing a local woman as floorlady to act as supervisor over local line workers.

At the present time the base wage received for ILWU workers is \$5.25 an hour for 40 hours of straight time and \$7.84 an hour overtime. Workers are guaranteed 61 days of pay for the salmon season; their transportation up from Seattle and return is paid plus their food, board, laundry, rain and protective gear. Management indicated that \$6000 was the mean for a workers seasonal earning. This cannery maintains a nurse and this year, for the first time, it was a Filipino nurse.

Housing appeared to be adequate although several female workers expressed concern for their safety because the dilapidated condition of their rooms in the trailer bunkhouse did not allow them to securely lock their doors. Small cottage duplexes were available for married workers with children. Food appeared to be above average and meals included dishes and condiments for the Filipino workers. A recreational area with pool table, TV's and record players was also available.

Management appears to feel that the present contract is excessively costly because the workforce they are getting is too old and their productivity low. Labor complaints tended to focus on inadequate housing and on the noisy conditions of the workplace. Management reported having difficulties in past years with occasional violence among the workers but this year had instituted a policy of searches of suitcases of arriving workers to confiscate firearms and knives. In addition, workers involved in fighting were informed that they would have complaints filed against them and that they would be turned over to State authorities for prosecution.

Ethnic relationships in the cannery setting are tolerable if not cordial. There is a significant degree of ethnic separation in housing, apparently an historical and preferred pattern by the groups, with Japanese having their own separate housing from other workers while Filipino and Anglo workers also have separate housing with the exception of one bunkhouse in which both Filipino and Anglo workers live. In that setting, however, Filipinos share rooms with other Filipinos and Anglos with other Anglos, and Filipino rooms are at one end of the hall and Anglo rooms at the other. There is some mixing in the mess hall but free time is overwhelmingly spent with members of one's own ethnic group despite occasional interaction through drinking, drug use, or outings at the bar. In general Japanese workers remain quite aloof from the other ethnic groups. Aleut workers, who go home after work, appear

to have little to do with their coworkers socially as they reintegrate themselves into their family, kinship, and peer networks for social and recreational activity.

A useful integrative institution of the cannery is the coffee break or "mug up" as it is called which occurs at 10:00 am, 3:00 pm and 9:00 pm daily. The entire community plus whatever fishermen and tendermen who might be in port at that time come together to drink coffee, eat doughnuts and pastries, gossip, chat, and interact with one another. It is a highly valued interlude by many and betting pools on the size of the cannery pack as well as social and recreational events seem to grow out of this institution.

Community-Processor Relations. For most of its history, King Cove has been a company town. However, with incorporation as a first class city in 1949 this situation gradually began changing as the community obtained countervailing power through its authority to tax. Although Jones (1976) contends that the major impetus to incorporation in King Cove was the desire to escape control by the B.I.A. of the local school, an equally powerful reason appears to be the desire to exercise local determination and begin seeking the kinds of services and improvements needed for King Cove without the control of the cannery. However, the cannery's ownership of nearly half of the available property, its control of the community water system and its ownership of the fishing boats insured its continued influence in the community for some time. Long time residents speak of those days as being the days in which "they owed their souls to the company store". It is important to note that the cannery provided substantial services to residents of the community by providing medical services (clinic and nurse), by providing winter grub stakes for fishermen during bad years, and by maintaining a store with minimal markup (Jones 1976:42).

Relationships continued on a mutual basis through the 1950's with the community providing a supply of labor for the fishing boats and cannery operations. The community received a substantial boost in their negotiating position when traps were outlawed as a harvesting technique in 1959. Jones (1976:38) notes that King Cove fishermen recognized their opportunity and obtained a concession from the company to purchase fish from them before that of outside fishermen. In addition, fishermen organized first on a union basis and then into the Peninsula Marketing Association to negotiate a better price for the fish they sell. This organized effort was successful in obtaining some price increase through strikes.

As a result of the company's assistance in purchasing

boats, by 1969 23 of the 46 vessels fishing out of King Cove were locally owned. Ten years later, largely due to the State of Alaska's loan program, the firm no longer owned any of the vessels operated by King Cove fishermen nor were they any longer involved in financing vessel purchases. However, one should not construe this as total independence for King Cove fishermen since the only outlet for their salmon catch, especially pink and dog salmon, continues to be the cannery.

During the 1960's and 1970's, the City of King Cove gradually sought and made improvements in the community. These included roads, streetlights, and police. These services had to be paid for and the community levied a property tax to obtain revenues to support services. The issue of taxation is at present a major problem between the cannery and the City Council. The cannery objected to property taxation, particularly after valuation of their expanded and renovated plant skyrocketed their bill, contending that they were being forced to shoulder an unfair portion of the burden because virtually all of the private lots in the King Cove townsite were restricted deeds which could not be taxed. Therefore, King Cove residents did not have to contribute to the support of community services. In 1979 the City Council altered the taxation method and imposed a sales tax on all fish sold to Peter Pan. Thus the fishermen of King Cove would be paying taxes which the cannery agreed to take out of payments to fishermen. This was done in 1980, but when the financial settlements were sent out to Peter Pan fishermen in the spring of 1981, a number of non-King Cove fishermen, particularly from Sand Point, objected to King Cove's taxation of them. These fishermen contended that when they sold fish over the dock in King Cove they were liable for this tax but fish they delivered to Peter Pan tenders on the fishing grounds were sold outside of the City of King Cove's taxing jurisdiction and they should therefore not have to pay tax on these fish. Given the fact that nearly all salmon were delivered by tenders, such an interpretation would effectively produce no revenue for the City of King Cove. They informed the cannery that they would not pay the tax on fish caught outside King Cove's taxing jurisdiction. Peter Pan has refused to apply the sales tax on those fish delivered to its tenders during the 1981 season. Since the amount of revenue derived from the local fish sales tax in fiscal year 1981 was roughly 25% of the total, it is readily apparent that the City of King Cove is dependent on those funds. In addition King Cove fishermen who serve on the City Council support the tax, which is on themselves, as do their fishing colleagues. Consequently, it is unlikely that the City of King Cove is going to voluntarily give up this source of revenue.

Another smaller item of conflict between the company and the city is the provision of shower and laundry facilities for transient fishermen. The new boat harbor and the appearance of non-local, non-Peter Pan vessels in the South Unimak fishery has brought additional vessels to King Cove during weekly closed periods. The only shower and laundry available are those at the cannery which, understandably enough, Peter Pan has not felt compelled to make available to the general fishing public. The lack of alternative services, however, brings those fishermen to their doors and the subsequent refusal of service causes hostility and animosity. The cannery would like to see the City provide a shower and laundry facility in the boat harbor to relieve them of this unpleasant situation.

Although the company and City are having a rocky time at present negotiating a relationship with changing and uncertain conditions, it does not appear that a rupture in the generally mutually beneficial relationship between the two is likely to occur.

Developmental Trends. There is a large quotient of uncertainty surrounding the seafood processing industry in general at present due to the extraordinary costs that are resulting from recently high interest rates and market weakness for canned salmon due to recent botulism episodes. In addition, operations on the Peninsula are in a state of flux due to the recent appearance of sizable numbers of floating processors competing for fish that had in the past been almost completely monopolized by Peter Pan. In 1981, for example, 22 floating processors were at anchor in Ikatan bay during the June South Unimak fishery. The competition ran the price up to \$1.15 a pound for red salmon, nearly \$.40 more than the price settlement Peter Pan had earlier negotiated with the Peninsula Marketing Association. This led to many King Cove fishermen, as well as others, selling their red salmon to the "cash buyers"; consequently, Peter Pan only obtained 42% of the catch as opposed to 80% the previous year. This did not appear to lead to any significant unused capacity at the King Cove cannery largely due to the fact that the catch normally destined for False Pass went to King Cove instead. The company's intentions with regard to the rebuilding of the False Pass cannery were unknown at the time of this writing. Many factors will have to be weighed by Peter Pan management in making the decision on whether or not to rebuild at False Pass.

Another area of uncertainty in the processing future at King Cove is bottomfish processing. Plans for bottomfish processing were drawn up when Peter Pan was owned by the

Bristol Bay Native Corporation, but those plans have apparently been abandoned by the Japanese parent firm and seem unlikely to be resurrected in the near future.

Processing of king crab will continue as long as quantities are sufficient to make the operation profitable. In 1980, 7,000,000 pounds of king crab were processed with only 1,000,000 coming from the southside. The precipitous and continuing decline of King crab stocks in the Bering Sea may ultimately cause the firm to quit processing crab.

In sum, whereas salmon processing in King Cove is being pressured by financial conditions and competition, it appears to be a strong, viable industry at present despite market conditions and salmon abundance. The pictures for crab and bottomfishing, on the other hand, are not nearly so sanguine due to a decline in stocks in the former case and a complex set of factors in the latter.

#### Other Economic Activities

Employment other than in commercial fishing or processing at King Cove is extremely limited. Sectors which provide some alternative employment include government, education, and private business.

**Government.** The City of King Cove supplies a number of services including electricity, water, sewer, police protection and medical care. As a result they are a major secondary source of employment in the community. Employees of the City of King Cove include a half-time city manager and a half-time planner (both shared with Sand Point), a city clerk, a city engineer, a harbormaster, and a policeman. In addition, prior to cutbacks in CETA funding, the City also had an additional CETA position plus two labor positions, one for the harbormaster and one for the city engineer. The community Health Council employs a nurse with funds provided by the city. At present the nurse operates out of the cannery clinic which has been provided free of charge to the City by the cannery. Occasional construction work is available from the U.S. Public Health Service and from private contractors.

**Education.** A second major source of public employment is the school system. During the 1980-1981 school year the educational staff consisted of a Superintendent, Principal, fifteen teachers, three teachers aides, three clerical staff (secretary-bookkeeper-clerk-receptionist), two maintenance personnel and two custodians, one of whom also served as a culinary worker. This totals 27 paid positions.



Staff stability is reported to be high for rural Alaska with only two or three positions usually changing from one year to the next. Following 1980-81, five positions became open, an unusually high number. Due to the short supply of housing in King Cove, teachers accommodations are marginal and this is a cause of some morale difficulties.

**Private Business.** The private service sector at King Cove is woefully underdeveloped and appears to be an area where significant and immediate expansion is possible. The opening up of land in the Ram's Creek subdivision may lead to new business ventures being pursued. At present King Cove has no hotel/motel accommodations, no restaurants, and no laundry facilities. In addition there are less than five apartment/rental units in the community, and no automobile repair or service stations.

In the grocery-dry goods area there are two establishments, the Peter Pan grocery store which employs four persons, and a locally owned combination grocery, dry goods, hardware, and liquor store which employs roughly six people, the majority of whom are family members. This same configuration was reported by Jones (1976) as being in existence in 1969. Further, the local business continues to be at a competitive disadvantage because Peter Pan charges a wharfage rate on goods which are moved over their dock. This situation may be alleviated when the new city dock is completed in the boat harbor.

Interior Telephone provides long distance and local communication in King Cove, and since April, 1981 has employed one full-time person in the community. Reeve Aleutian Airways employs an agent and the post office has one employee as well. The local bar employs two persons on a normal night and three or four on weekends.

There is a part-time taxi service and a trucking service with five trucks and a backhoe. In addition, the trucking service also doubles as a pot transport service employing five men for two months full time once at the beginning and once at the end of crabbing season. This crew is responsible for moving roughly 7000 pots which are stored at King Cove on and off their respective vessels. The village corporation of King Cove employs a full-time secretary and local manager.

An electronics firm based in Seattle keeps a technician in King Cove eight or nine months a year to service vessels.

The astonishing shortages of services at King Cove is made even more salient when one realizes that in 1969, during

a period of significantly less prosperity than at present, the community supported a coffee shop and a movie house, both of which are absent now (Jones 1976:4). There seems little doubt that those gaps in King Cove's service sector will shortly be filled.

### Subsistence

Subsistence activities include the harvesting of natural fish, animal, and plant resources for generally local distribution and consumption. Although the majority of subsistence production is consumed by members of the producers household, a substantial amount of sharing with relatives in King Cove is usual.

Virtually all King Cove households engage in subsistence production of one kind or another. Resources which almost every household obtain include caribou, salmon, crab, and berries. Caribou are hunted in the valleys north of King Cove and on the east side of Cold Bay which is a favored grazing ground in the fall and winter for the Alaska Peninsula caribou herd. A second major hunting area is the flat lands at the head of Pavlof Bay. In addition caribou can be hunted at night from boats in the winter time when they come down to the beaches to get salt. September was given as the primary time for caribou hunting. Four caribou was the median response of eight King Cove fishermen whom were asked how many caribou they needed to get through the winter. In total pounds, caribou is probably the major subsistence item in the diet.

A second major subsistence foodstuff is salmon. King and red salmon may be consumed fresh during the course of the fishing season and a few of each may be frozen or smoked. But the major salmon subsistence item for King Cove appears to be silver salmon. Although this species is not in great abundance in the southside streams, they appear at the end of August and early September when the fishermen can concentrate their efforts solely on them. Beach seines are the technique most generally used, although set gillnets may be used on occasion. It was estimated that most families get from 50-150 silvers which are smoked or salted for preservation. Very few pinks or dogs are used by King Cove residents despite the fact that those are the two most abundant species which enter the lagoon to spawn in the local stream.

King and Tanner crab are obtained normally during their respective commercial seasons and are frozen. Several fishing boats were witnessed bringing King crab home during the July salmon season.

Halibut and cod are other subsistence resources taken by King Cove residents. Sources indicated that quite a few families would get one or two halibut (approximately 100 pounds) to freeze but would go out and jig it up whenever they desired it. Cod is much less frequently targeted but at least two families put up cod last year.

There are a number of additional seafood items which King Covers eat in small quantities. These include clams, bidarkis, octopus, and trout.

Sea mammals also are taken by King Cove residents. It appears that it is migrants from Belkofski who continue to pursue them with vigor. One ex-Belkofskite indicated that he had to make seal oil for two of his sisters because their King Cove fishermen husbands either would not get them or did not know how. He indicated that two seals would normally provide enough seal oil for a household unless there were some real heavy users. Sealing is generally a wintertime activity.

Sea lion flippers are considered a great delicacy by older Aleuts but it is on rare occasions that such a treat is available in the present time.

Other subsistence items sought by a few King Covers are ducks and geese. October is generally the main time for waterfowl hunting. The manager of the Izembeck National Wildlife Refuge reported that King Cove men would use a small shack in Kinzaroff Lagoon at the head of Cold Bay in October for waterfowl hunting. King Cove sources did mention this spot, but said that Morzhovoi Bay was considered a better hunting area. The preferred species sought is the Canada goose.

There are very few green plants used by King Cove residents. The most important use of local floral resources is the berry picking activity of the women and children which takes place in late summer. Salmonberries, mossberries, and wineberries are all available near King Cove and on warm, clear summer days numerous parties can be seen out berry picking. Berries are frozen, jarred, and made into jam.

A few other greens, such as puschky stalks and pachuskies (beach celery) are occasionally eaten but are not collected in large quantities for storage.

Of total food consumption pattern in King Cove, well-informed long-term local residents estimated that a majority of protein consumed was derived from local sources and that approximately 25% of total food consumption was derived from local subsistence sources. The amount of subsistence production varies significantly from one household

to the next, but it appears that families recently emigrated from Belkofski are more active in this area than long-time King Cove residents.

Alaska Department of Fish and Game Annual reports for the Alaska Peninsula have included a summary of the subsistence permit information on salmon taken by Peninsula residents since 1969. Although these data are unreliable due to incomplete reporting and a lack of controls on the self-reporting that does take place, they do provide some indication of trends. Table 4.2.14 summarizes recent ADF&G salmon subsistence data from the south peninsula. Two of the most important trends that appear are that subsistence efforts appear to increase in years when commercial salmon fishing is poor (1975 being the most recent example), and that there has been a general decline in estimated subsistence salmon use over the past ten years despite more families being involved now than then and despite more complete reporting now than then. The Annual report for 1970 estimates that residents of the South Peninsula took 8750 salmon for subsistence while the estimate for 1980 was 5700 salmon. It is interesting to note that the decline was found in pink and chum salmon totals indicating previously greater use of those resources than is found at present.

Subsistence activities are highly valued by residents of King Cove for a number of reasons. They are culturally valued due to being raised doing them. They provide preferred foodstuffs which are nutritionally valuable. They provide opportunities for recreation and socializing. Finally, they are an important contributor to the social cohesion of the village by being a major means of exchange and distribution between first kinsmen and second valued non-kinsmen.

#### 4.2.4 King Cove Social and Political Organization

##### Social Organization

**Kinship.** Kinship, which is defined as a system of categorizing or classifying persons primarily on the basis of relationship through descent and marriage, is an important determiner of social interaction and behavior in King Cove.

Descent at present is reckoned in the patrilineal fashion dominant in the United States with bilateral recognition of kinship relationships. Although there is no conclusive evidence on this point, it has been suggested that precontact Aleut descent was reckoned matrilineally (Lantis 1970). There is little evidence of such a tendency in present day King Cove.

The patrilineal descent principle allows one to identify

TABLE 4.2.14

SUBSISTENCE HARVESTS OF SALMON IN THE  
SOUTH PENINSULA DISTRICT  
AS REPORTED ON SUBSISTENCE PERMITS RETURNED

	Number of Permits	Kings	Reds	Pinks	Cohos	Chums	Total
1975 <sup>1</sup>	61	4	1367	1662	676	818	4527
1976	-	0	409	350	338	208	1305
1979	55	50	1550	500	1150	350	3600
1980	85	100	2400	900	1800	500	5700

<sup>1</sup> Data collection efforts in 1977 and 1978 were minimal resulting in a very low rate of permits returned.

Source: Alaska Department of Fish and Game 1980a

"families" or lineages based on patrilineal affiliation and their geographic place or origin. Analysis of the 1981 King Cove household census shows that 91 of 122 households have male heads who are recognized as Aleut. Of those 91, 65 are headed by persons from King Cove, 15 by persons from Belkofski, and the remaining six from three other Aleut villages (Ikatan, Akutan, False Pass). Strikingly there are no heads of household in King Cove who were originally from Sand Point, although the reverse is not true. Of course, if one were to trace back the origins of the 65 King Cove households another generation one would find a greater diversity in geographic origin of heads of households.

The distribution of the 65 households headed by persons from King Cove have lineages as presented in Table 4.2.15.

As can be seen, 2/3 of all the households are from the first five lineages, four of which trace themselves back to the original founding families of King Cove. In addition, six households are headed by members of a lineage from Ikatan and five by members of a Belkofski lineage.

Marriage patterns in King Cove display a high degree of village endogamy; roughly 2/3 of all marriages involving a person from King Cove bring together two community residents. This is a continuation of a pattern initially identified by Jones (1976). Jones (1976) suggested that the women who at the time of her study were either marrying out of the community or obtaining husbands from elsewhere and residing in King Cove did so due to a proscription on cousin marriages. However, it would appear to be equally as likely in previous decades that King Cove and Belkofski women married outsiders because they appeared to be more likely to provide a comfortable standard of living compared to their King Cove prospects. The fact that King Cove residents went outside and to Anchorage for high school until 1976 can also be seen as a contributor to outmarriage by providing opportunities to meet potential mates and learn skills necessary to live in an urban setting. Although there are still potential spouses for most King Cove youths in the community, the size of the pool for most has shrunk dramatically due to the intermarriages between lineages in the previous two generations.

Despite the high degree of endogamy, there are a substantial number of women from other Aleut villages married into King Cove. Belkofski, Nelson Lagoon, and St. Paul (Pribilofs) are home villages for the majority of wives married in. There are surprisingly only two or three from Sand Point. Wives from False Pass, Unalaska, and Akutan are also relatively few. Another indication of the prosperity of King Cove is that the number of Anglo males married to Aleut females is no more frequent than the number of Aleut males

Table 4.2.15

KING COVE HOUSEHOLDS BY LINEAGE

<u>Number of Lineages</u>	<u>Number of Households</u>
1	11
2	11
3	8
4	8
5	6
6	4
7	4
8	3
9	3
10	2
11	2
12	1
13	1
14	1
<hr/>	<hr/>
14	65

married to Anglo females. This is a recent pattern in that most of these marriages have occurred in the last ten years. It is also an indication of the cultural profile exhibited by King Cove males who would be perceived as attractive marriage candidates by Anglo females.

Kinship provides the framework for much of the activity that takes place in King Cove. As noted earlier, crew members on fishing vessels are drawn from the nuclear family (sons and daughters) from the sibling set, and from extended kin ties (cousins). The locally (Aleut) owned stores also are primarily family business. In several cases, captains of vessels who are brothers generally fish together and work on gear together. Another example of mutual assistance, house construction, is common among kinsmen. On the female side, sisters tend to do economic, recreational, and social activities together. In fact the three women from the Pribilofs married into King Cove integrate their three households despite the fact that they are each married to men from three separate lineages. Visiting, child care, churchgoing, and berry picking are among the activities which are shared by sisters.

Extended households were not uncommon in the recent past in King Cove due to the shortage of housing. However, this was clearly not the preferred pattern as the opening of the new subdivision has brought about the breakup of many extended families as young married couples have moved into their own houses. Thus neolocal residence appears to be the norm.

Despite this fact, it appears that grandparents continue to seek and accept more of a role in the rearing of grandchildren than one finds in Anglo families. Although this is particularly true for young unwed mothers with children (of which there are several in King Cove), it is also true of grandparents whose children have stable marriages. In one case, grandparents in King Cove have had one of their grandchildren from another community living with them each of the last three years because the children prefer King Cove to their parents' urban home.

Despite the importance of kinship, there are variations in the degree of strength of ties from one lineage to another. For example, because of the small size of King Cove, there does not appear to be neighborhoods based on lineage or village of origin. However, that may simply be because the explosion of new dwellings has altered the earlier pattern. On the other hand, one lineage is presently settling on the opposite side of the lagoon thus introducing an element of residential segregation by lineage membership into the community. In addition, lineages do not appear to act as units for the purpose of effecting elections to city office or



to positions on the village corporation board of directors. Evidence for this assertion is provided by the fact that neither of the local managers of the village corporation has come from the two biggest lineages in the community.

In sum, kinship is an important integrating institution in the economic, social, and recreational spheres of life in King Cove.

Friendships between King Cove residents are another important feature of King Cove's social organization. Close friendship relationships are overwhelmingly between members of the same sex and tend also to be between individuals relatively close in age. They are thus the outgrowth of growing up and going to school in King Cove together. As adults those patterns appear to continue in terms of economic assistance (such as partnerships) as well as social and recreational interaction.

**Voluntary Organizations.** The degree to which kinship and friendship relationships tend to organize social activity in King Cove is made even more salient by the paucity of voluntary organizations in the community. The only voluntary organization of a social or service nature discovered was the Women's Club. This is a well established institution in the community which is dominated by women from the major lineages. They hold teas, meetings, and raise funds for projects identified by the memberships as worthwhile. For example, they will provide aid to families in need or who have experienced a disaster and they assist in funerals. Most recently they have raised funds to help equip and supply the Community Clinic.

The only other voluntary association found is the Bible study group of the fundamentalist church which meets several nights a week in the homes of members.

This paucity of voluntary organizational activity for social and recreational purposes stands in stark contrast to the overwhelming abundance and diversity of voluntary associational activity apparent in Cold Bay. As a community Cold Bay is composed primarily of transient State, federal and private business representatives, many of whom were assigned their locations, and who share virtually nothing in common other than being in Cold Bay. Consequently voluntary organizations appear to have developed to provide a basis for social interaction among these people.

#### **Political Organization**

**Local organizations.** The primary local political institution in King Cove is the City Council which has two

subsidiary bodies: the Planning Commission and the Health Board. In addition, King Cove has a School Board which is responsible for running the Independent School district.

King Cove was incorporated as a first-class city in 1947 and has a seven member mayor-council form of government. As a first-class city, King Cove can assume a variety of powers and responsibilities. It has the power to levy property and sales taxes and the responsibilities to provide for streets and their maintenance, sewer & water facilities; harbors, docks and related facilities; health services; police protection; solid waste disposal; and fire protection. The City has also elected to provide recreation facilities (which it so far has not been able to), undertaken housing rehabilitation and development, and provides power. Most of the direction of the City's activities is provided by the half-time City Manager who is shared, along with the City Planner, with the city of Sand Point. He delegates authority for the day to day functioning of the city primarily to the City Clerk, a highly capable local woman who is a college graduate, and the City Engineer. Problems and directions are addressed in conjunction with the Mayor and Council.

The services provided by the City in the last decade have expanded tremendously in large measure due to State oil revenues being artfully obtained through the diligent and coordinated efforts of the mayor and manager with the State legislative representative. State funds have brought satellite TV, a 200-vessel harbor with harbormaster facilities, the resurfacing and construction of roads and have been responsible for the new airfield. Federal funds have made possible the new water system as well as the new housing subdivision. In addition, the city has in hand funds for a new clinic, a dock crane, and a fire truck. This recent growth in services is evident even in the budgets for the past four fiscal years which are presented in Table 4.2.16.

There are no apparent political factions on the City Council which is particularly interesting given the single industry/company nature of the community. As a result, the general competence, interest in serving, and diligence of Council members as opposed to their ideology or ability to influence employment are issues at election time.

The King Cove School Board is a five-member body responsible under State law for the selection of teachers, budgeting, and matters of school policy. There is no overlap in the membership of the City Council and the School Board with the exception of the Mayor who has also been elected Chairman of the School Board. One source indicated that if King Cove still had the chief system which characterized Aleut community organization in the past, then the current Mayor

Table 4.2.16

## KING COVE CITY REVENUES, FY1979 - FY1982

Revenue Source	FY 79	FY 80	FY 81	FY 82 (projected)
Sales Tax	77,896	89,116	150,000	175,000
Property Tax	37,434	55,356	-	-
Rent	23,499	14,828	14,000	-
Federal Aid	11,388	13,240	2,400	16,000
State Aid (Revenue Sharing)	186,636	321,945	191,950	310,000
Other	1,427	11,242	7,000	7,000
Electric Utility			47,500	120,000
Harbor			40,600	45,000
Warehouse			19,200	25,000
Water Utility			11,200	50,000
Total	338,277	505,727	483,850	748,200

would certainly fill that position. School Board functioning appears to be nearly as consensual as the City Council with no apparent factions and little controversy on the vast majority of decisions which come before the board. The Superintendent is generally provided with a relatively free rein to run the school system. One of the fundamental rules he must keep, however, is the avoidance of controversy which might result in legal action. The school district suffered through a lengthy and costly court suit several years ago over teacher retention and is very anxious about not repeating that episode soon.

This does point to one of the major area of potential controversy between the Board and the Superintendent-- expectations about teacher behavior. As in many rural Alaskan communities, teachers' behaviors outside of the classroom are generally widely known or easily discovered. Community residents have strict standards about teachers' out of school behaviors. Drug use and drunkenness in public are considered extremely inappropriate and are not tolerated. Residents' rationale is that teachers must be exceptional role models for children because of the degree of influence they have over them. The isolation and culture shock of King Cove for some teachers causes adjustment problems which may lead to occasional violation of these strict norms. If a Superintendent attempts to insulate the teachers from Board dissatisfaction (which is almost always a direct reflection of community dissatisfaction) then controversy can be the result. In general King Cove Board members are willing to listen but exercise clear authority in governing their school district.

The final local political arena is actually only a quasi-public one in that certain segments of the population (non-Native) are formally excluded from participating. The village corporation of King Cove is composed of 335 members, 80% of whom are local residents. Most of the offspring of enrolled members born after the enrollment deadline of 1971 should also be considered as affected by the policies of the village corporation since they will likely inherit the shares of their parents. The village corporation is now the major landholder in King Cove due to its selection of lands under ANCSA and as such it holds the key to the future development, both economic and social, of King Cove. To date the village corporation has been relatively inactive on the business front, which has prompted some shareholders to be dissatisfied with its lack of involvement in local civic projects, such as the new power plant which the City obtained through bonds. In all fairness, the corporation has been the locus of significant controversies over the disposition of its lands and has had little time to do anything but settle those questions. The most important question about land has concerned the ANCSA requirement that 1280 acres be deeded back to the City of King Cove for municipal growth and development.

The controversy essentially boils down to whether King Cove should grow and become a diverse community by allowing outsiders to settle or whether it should seek to retain its Aleutness by keeping tight control on land, making it available as needed to local residents primarily for the construction of new houses. Most King Covers are apprehensive about the examples of growth apparent in their "sister cities" of Unalaska and Sand Point. They are unimpressed by the deluge which has engulfed Unalaska Aleuts and disdainful of the factionalized and conflict-ridden political process in Sand Point which they attribute in large measure to the outside businessmen.

The City Council and Village Corporation battled the land issue for several years until finally a settlement was reached which appeared to favor the slow growth position taken by most King Covers. That settlement called for transference of (instead of the mandated 1280) acres of village corporation land back to the city to meet the ANCSA requirement. The City Comprehensive Plan (1981:32) says that "This contract fulfills the ANCSA requirement" but then goes on to state that "it is understood between the corporation and the city that when the need arises for public lands to be developed such as roads and utility easements etc. to serve the community growth, the corporation will convey the necessary titles of land." The corporation, composed of Aleut residents, rather than the City, representing all residents, apparently will continue to control the development trajectory in King Cove. Ironically, the recent land distribution to shareholders may spur rapid settlement of outsiders in King Cove if shareholders who already have homes and land elect to sell the additional acreage made available to them. One such owner indicated that he would be willing to sell his acre for \$10,000.

In addition to the King Cove Village Corporation, the community also is home now for the majority of the 36 shareholders in Belkofski Corporation. The major activity of this village corporation is the leasing of its land on Dolgoi Island for cattle grazing. King Cove proposed a merger with Belkofski Corporation which fell through in 1981. Further discussion of those talks will be found in the section on ethnic identity.

**Regional Organizations.** The community and residents of King Cove are participants in several regional organizations. Aleut residents are members of the ANCSA regional corporation, the Aleut Corporation. The community is served by the Aleutian/Pribilof Islands Association (APIA) which is a non-profit village-based association which provides a number

of services to Aleut communities. Fishermen in King Cove are represented by the Peninsula Marketing Association and one of them sits on its Board of Directors. Finally the community has just recently become a participant in the regional Coastal Zone Management unit established by the State.

The regional corporation and its operations appear to have little relevance for the residents of King Cove. They are aware of its existence and its attempts at providing barge and transportation services, but its past problems and lack of direct impact either through dividends or jobs for King Cove residents has caused it to be peripheral at best to most King Cove residents. Energies that are available for such organizations are therefore directed toward activities of the village corporation which is most likely to have direct impact on the lives of King Covers.

APIA has a more direct impact on the lives of King Cove residents; consequently, its activities are of somewhat greater interest to them. One of the major impacts of APIA on King Cove has been the 22 units of housing which were financed through HUD by the Aleutian/Pribilof Housing Authority, a subsidiary of APIA. Another role which APIA has played is to obtain CETA funds as a tribal authority from the BIA as well as manpower funds for job training. During the summer of 1981, for example, APIA personnel were canvassing King Cove residents to determine the need for adult basic education and vocational education programs in the community. The association has also sponsored cultural activities including an elder conference in 1980 which brought together most of the elderly Aleut population to collect life histories, legends, songs, and stories. Another cultural heritage project is the identification and documentation of the totality of Aleut cultural and material artifacts found in the museums of the world.

The Peninsula Marketing Association is the major representative of King Cove fishermen in their price negotiations with Peter Pan each spring. Despite the fact that Peter Pan management is located in King Cove, local fishermen are not significant actors in the annual negotiations. Only one of seven board members comes from King Cove and King Cove fishermen did not seem concerned with the organization's activities. This may be the result of the fact that PMA is dominated by the large purse seine fishermen from Sand Point while King Cove fishermen are more oriented to drift gillnetting. Nevertheless, King Cove fishermen appear to support the organization and no voices of discontent were heard.

The Coastal Zone Management regional unit of which King Cove is a member was founded in 1981 and therefore little can be said about the role of King Cove in it as yet.

Political Process and Response Capacity. Residents of King Cove have a strong sense of civic identity and self-determination which likely has its roots in the struggles against the BIA and the cannery. There is no evidence of factionalism as most share a common vision for the future of King Cove. This was made abundantly clear in the controversy with the cannery over the sales tax this past summer. During the discussion of that issue there was unanimity among council members that the tax was justified and should be retained. This was in the face of the fact that the mayor plus four other council members (two fishermen and two fishermen's wives) were heavily dependent on the cannery for their economic livelihood. The common vision which appears to unite King Cove residents is that it remain essentially an Aleut fishing community prospering from its fisheries activities, remaining under the control of King Cove residents of long standing, and adding services as they are desired by village residents to improve the quality of life. Their recent successes in obtaining State funding for new projects, in underwriting other projects through their own tax base, and in personal prosperity through fishing efforts appears to have give them confidence that they can attain their vision of the best of the old with the best of the new.

Despite these strengths, King Cove has had little experience in working with other communities toward regional goals. Even in the Peninsula Marketing Association they are relatively inactive as typified by the fact that they have but one member on the seven-member board of directors of the organization.

#### 4.2.5 King Cove Sociocultural Organization

Sociocultural organization refers to the cultural heritage of the population and to the contemporary values and beliefs that are consciously stated as well as those that are evident from patterns of behavior. The relatively short period of field research makes definitive comment on these topics impossible so they must be considered tentative and partial.

Language. Language use in King cove appears to be overwhelmingly dominated by English. This is true of both institutional (school, city council, village corporation) and public (cannery, stores, bar) contexts. In addition, language use in nearly all King Cove homes is predominantly English

with occasional Aleut words or phrases intermixed. Aleut appears to be the primary language in only one or two households where elderly people over 60 are the chief residents. There are another five households, mostly of Belkofski residents but also one immigrant family from Akutan, in which Aleut is spoken quite frequently. One married woman of one of these latter households indicated that she was losing her fluency, and although they could understand Aleut, her children could only "speak a few words." I did hear Aleut spoken over the CB radio on several occasions among females of different households. This decline in use of the Aleut language in King Cove appears to continue a trend reported by Jones (1976:5) who noted that "few Aleuts speak the Aleut language." There is no evidence of any apparent interest in revitalizing the Aleut language through a bilingual program in the school, not even among the Belkofski households who continue to value use of the language. The school superintendent reported that the School Board and the adult leadership derived from the settlers of King Cove were adamantly opposed to any Aleut language program in the school.

**Ethnic Identity.** King Cove residents clearly think of themselves as Aleuts but the cultural intensity of that identity does not appear very high. An aspect of identity that appears more salient is localness. There appear to be two major axes of differentiation in the meaning of Aleut as an identity for residents of King Cove. One of these is geographic origin and the other age. There is apparently some continuing status ranking among traditional King Cove settlers and more recent immigrants from Belkofski in which the Belkofskites are regarded as lower status in the eyes of King Cove residents. There are several components to the differentiation in that no Belkofski immigrants own any of the larger, new boats so they tend to have somewhat lower (but not significantly) economic status; they occupy more marginal housing due to their recent arrival (but this is being changed due to building new homes on their own and moving into the HUD units); Aleut language is used and an Aleut accent on English is heard; they have a strong Russian Orthodox orientation. Also, it was reported that in the school system there is no marking of Belkofski children by King Cove students in grade school but that by high school cliques based on village of origin tend to be fairly tight. Belkofskites appear to rarely serve on the School Board or City Council.

One representative instance of the continuing tension in the relationship between individuals from the two communities is the attempt at consolidation of King Cove Village Corporation with Belkofski Village Corporation. According to



Belkofski sources, King Cove approached Belkofski about consolidation offering merely a simple merger in which assets would be combined and new shares issued on the same per capita basis. Belkofski residents viewed this as a blatant attempt at expropriating their land selections which they feel are more valuable than King Cove's land due to holdings at the head of Pavlof Bay, a possible transportation corridor for an oil pipeline. They took King Cove's interest in consolidation to be a function of OCS development and King Covers greed. They also considered the offer to be insulting and based on King Covers view of them (Belkofskiites) as inebriates. One man commented, "They (King Covers) thought we were drunks so they could get away with anything." The Belkofskiites made a counter proposal to protect their control over certain key areas but that was rejected by King Covers and the consolidation talks ended. Belkofski residents were adamant in their desire to hold onto their land in order that their children or children's children would receive the benefits from them.

Despite this underlying tension, there is little overt animosity or violence and many marriage links integrate the two communities. Both groups know that their interests are best served by a united front as residents of King Cove.

The second axis of ethnic identity is that of age. The King Cove population over 40 years of age has apparently spent most of their adult lives submerging aspects of their Aleut identity in order to attain an American identity. Jones (1976:5) comments that King Cove's Aleut settlers consciously strove to shed "visible signs of traditional culture" including the chief system, community-owned steam bath, fish camps, and the Russian Orthodox church. For the younger population, especially those under 30, the passage of ANCSA in 1971 has changed Aleut identity from a slightly negative valence to a slightly positive valence. A complete examination of ethnic identity among younger people was not possible but this distinction between the two age classes was salient. There is, however, a stronger Aleut ingroup versus outsider attitude apparent among those in their 20's and 30's which is puzzling and disconcerting to older King Covers.

Although Aleut identity west of King Cove appears to be firmly linked with the Russian Orthodox Church, there is extremely little evidence of Russian Orthodoxy in King Cove as a part of Aleut identity other than as Jones (1976:8) noted the overwhelming preponderance of Russian Orthodox burials, even of nominally secular King Covers.

It is of some interest to note that the explosive recent

growth (last two years) in outside non-Aleut captained and crewed purse seine vessels competing with local Aleut vessels has not resulted in discernable conflict or even comments on the disruptiveness of this pattern. This, however, may be because local Aleut permit holders are implicated in and benefitting from this situation and others not benefitting have not been disadvantaged enough to date to have to do anything about it.

Religion. Following from the above comments, King Cove's only church at present is a nondenominational fundamentalist church which has a fair following in the community at present, primarily among adult females, but there are several strongly committed adult males as well. The number of baptisms of local King Cove residents into this church has increased during the past decade and it has an active Bible study group which meets at night during the week as well as a teenage Sunday school group led by a volunteer. Jones (1976:80) suggested that King Covers regarded the school as a cultural device to help prepare their offspring to cope with mainstream Euroamericans and their culture. In addition she noted that King Covers kept the church at arm's length by various mechanisms including "referring to them (missionaries) as 'bible pounders' and 'bible thumpers' and criticizing them for their insincerity and disinterest in the community" (Jones 1976:80). The current missionary also received several forms of criticism so that King Covers in no way regard religious practitioners as having superior powers of judgement on matters other than religion. Despite the continuation of mechanisms to distance and moderate fundamentalist missionary activity and influence, they appear after 20 years in the community to be gaining ground, especially with King Covers (as opposed to Belkofskiites).

The Russian Orthodox church is perceived as the Aleut church and many King Covers continue to adhere to aspects of the faith such as the crucial rituals of baptism, marriage, and burial. As noted previously, the vast majority of head-stones in the King Cove cemetery are found with Russian Orthodox crosses. However, there is no church and no priest in the community and there are no clearcut factions along religious lines. King Covers tend to regard their own religious convictions as being, in the words of one person "six of one and half dozen of the other;" that is, they combine aspects of the fundamentalist and Russian Orthodox in their lives.

Belkofskiites are clearly Russian Orthodox in their orientation. The village church in Belkofski continues to be a source of pride and emotional attachment to them. In a very

emotional outpouring, a middle-aged Belkofski wife said that in her view, a church bishop had come to Belkofski after they had moved to King Cove and stole their gold cross, goblets, and other icons. She said those items belonged to them, members of the Belkofski Russian Orthodox community, and that outside religious administrators had no right to them. She was near tears when she said that they would get them back for their new church.

There is a lay reader who spends about half his time in Belkofski maintaining the church as best he can and holds occasional services in King Cove for Belkofskites. It is not obvious that any King Covers participate in these services with the possible exception of Christmas and Easter services.

There is at present an ongoing fund raising campaign by the Belkofski families to build a new church. A site near the cemetery has been selected and purchased and a variety of fund raising activities are sponsored. The men collect copper piping and tubing which is then sold in Seattle and the funds deposited in the Church building account. More than \$2500 was raised from this latter activity last year. Most of this activity appears to be the work of the population over 40, and I was unable to ascertain the degree of involvement in the process among the younger people from the Belkofski households.

In sum, religious faith and activity are important but secondary elements in the lives of most King Covers. These activities do not integrate residents of King Cove together nor do they factionalize them.

**Socialization.** The discussion in this section will focus on two aspects of socialization in King Cove, the formal educational system and informal training for fishing and motherhood. No observation of early childhood socialization patterns in homes were made. The superintendent and nurse reported little or no evidence of either child abuse or neglect.

Formal education (schooling) is valued in King Cove. It is valued, however, primarily for the conveyance of practical skills and not for the ability to manipulate abstractions, for any presumed inherent good in learning, or for future professional career development. Attendance from preschool, which children enter at the age of four, through graduation is good, although it tends to drop off some in the later high school years. With the exception of September, during which many King Cove families have chosen to take vacations in the recent years of prosperity, daily attendance generally exceeds

90%. The Superintendent suggested that this may be as much a function of the lack of alternatives for high school students as it is a desire to complete secondary education. Nevertheless, there is virtually no drop out problem in King Cove with the vast majority of youngsters entering high school since its inception in the 1976-77 school eventually graduating.

Postsecondary education, however, is a different matter. The present superintendent indicated that he has promoted and pushed postsecondary education for the last five years but with little success. In that time period, three King Cove graduates have gone out to college, but only one has graduated. There is also little interest in postsecondary vocational education in such things as secretarial skills, bookkeeping, diesel mechanics, electronics, or heavy equipment operation, all of which are of potential use in King Cove. A very few have tried trade school and, like college, most of the young people who go out are back within a year. The high wages being earned in salmon fishing are apparently inhibiting further education even though for the most part there is no direct conflict in the timing of salmon fishing and educational activities for unmarried, young adult King Covers.

As one might expect in a community dominated by primary production, young males show a high degree of interest and aptitudes for mechanical skills, but achievement in academic areas tend to lag. The Superintendent spoke enthusiastically of the welding and carpentry skills which King Cove boys learn in high school and go on to apply in their daily lives. In addition there is also interest in drafting. A young King Cove male (14-15) was seen with a set of plans for a pair of mounts to drive his three-wheel motorcycle onto for repairs. He was using the school shop equipment to construct the mounts and appeared to be highly skilled in the use of the equipment as well as self-confident in his abilities.

Informal socialization for fishing for young men and motherhood for young women still appear to be dominant in King Cove although there appears to be a growing tendency for young married (or unmarried) women with children to have jobs of their own. Jobs available for young women include secretarial work for the city, village corporation, and school district, clerking in the local stores and post office and tending bar. This is a fairly limited set of opportunities but the few that are available are greater now than in the recent past (other than cannery line jobs).

Participation in the fishing industry as fishermen is the

goal of the vast majority of King Cove male youths. They began practicing skills quite early often being taken down to visit the boats of their fathers at age two or three. A five or six year old was seen operating a skiff with an outboard under the supervision of his older cousins. Some 10 year olds were also witnessed helping move hand purse seine gear for repair and another 10-11 year old said that he had spent the last two fishing seasons with his uncle on a tender. Based on field work in 1969 Jones (1976:79) reported that "by the age of eleven or twelve, most boys spend summer at sea; several years later, they assume full-fledged crew responsibilities..." It would appear that for the majority of male youth, incorporation into fishing activities is now somewhat later than it was tens year ago. Fishing fathers reported taking their sons to sea now at age 14 or 15 with incorporation as full-share fishermen usually coming a year or two later. This may be due to the fact that crew positions are decreasing in availability as they are filled by men in their early 20s who cannot become captains of their own vessels due to limited entry. Those younger than 15 generally stay behind in the community where they spend long hours playing basketball and pursuing other athletic endeavors in the school gym which is open seven hours a day. In addition they ride three-wheelers all over the countryside and climb the mountains surrounding King Cove on clear days.

Young women in King Cove were reported by Jones (1976:79) to begin assuming housework and child-care responsibilities at age seven or eight. They were normally able to assume full responsibility for household management by age thirteen. She suggested that this was an adaptive response to the mothers necessity of working in the cannery, that young women appeared to relish their responsibility, and that when their duties were performed well they received significant prestige and reinforcement from their parents, members of the extended family, and other village residents.

In the ensuing ten years, there have been a number of changes in King Cove life that appear to have relieved adolescent and pre-adolescent girls of some of these tasks. Mothers no longer have to work long hours in the cannery and so therefore have reassumed managerial responsibilities in the households. Teenage girls are still required to help at home but they are now under the direct supervision of their mothers and therefore have a different level of responsibility than before. In addition, the proliferation of labor-saving devices such as washers, driers, dishwashers, have lessened the burden of household chores somewhat. The recent addition of TV provides a major outlet for the reallocation of time, and cardplaying, reported by Jones (1976:84) continues to be

an avid avocation of King Cove women. In terms of crafts, there are no traditional practitioners of Aleut basketmaking or modern carving in the community. Women knit and crochet a great deal, and young women begin these skills at ages 10-12. One entire wall of the dry goods portion of the general store is devoted to yarn to be used in these pursuits.

Values. The core of values around which the lives of King Cove residents appear to be built seem to fall into three areas: the importance and integrity of the family/household, the pursuit of fishing as a livelihood, and the exercise of local control. Each of these clusters and the subvalues which appear to be related to each are discussed below.

Importance of the family/household. Married life is desired by King Cove males and females who seem to accept and share the responsibilities of their tasks. As Jones (1976:77) reported, women support and follow the husband's fishing activities by organizing household activities to his schedule. Wives usually accompany husbands to the docks at the time of departure, monitor the vessel's activities on the radio when they are near, call the cannery for reports when they are at a distance, and meet the husband at the dock when he returns. Husbands and wives go visiting together and as Jones (1976:71) noted, they go and leave the bar together as well. Marriages are characterized by mutual respect and cooperation.

Jones (1976:70) reported that there were few children born out of wedlock in King Cove. However, the statistics she cited were derided as substantially low by several King Cove residents. There appears to be a shift in attitudes toward and/or ability to sustain a female-head of household in King Cove. There are at present several households of young women who have never been married but have children. Parents of these young mothers are usually supportive. Interestingly there is a continuing expectation that males should naturally assume their responsibilities as father of children. One grandmother whose grandchild was sired by a nonlocal fisherman could simply not understand why he had not returned to support her daughter and the child. She could not believe that anybody could be so insensitive and irresponsible. The increase in female-headed households is the result of the availability of housing and their ability to sustain a household. Not surprising, this is due to young, never married women as opposed to divorced women of which there appear to be no increase since Jones' study period 12 years ago.

This points to another strongly held value of this cluster--that of children. For the female population over 40, this value is expressed in the desire to have a large family. One woman whose husband came from a large family said that her fondest hope at the time of marriage was to give her husband a large family. She valued many children herself because of the joy each brought as well as the group joy of many. She was only sorry that because a number of children had died in childbirth she was only able to see four become adults.

Younger women and men do not appear to place the same valuation on quantity. Children are still highly valued and desired as a natural part of family life but now birth control and family planning is desired to reduce the number. Although they enjoy their children, younger women do not cherish the vision of themselves changing diapers and washing bottles for the rest of their lives. Instead the demographic transition has come to King Cove in that standard of living is now an important household value which competes with the number of children. Younger families value material goods (trucks, household appliances, TV's, stereos) and vacations (exposure to urban environments) as well as children.

Another important family/household value is that of mutual support for extended family (kinsmen). This was discussed in the section on kinship.

Fishing as a Livelihood. It is hard to overestimate the passionate interest and joy in fishing which King Cove males take. Much of their waking lives are consumed with the technical details of keeping their vessels able to produce a living for them. They enjoy the camaraderie of the fishing crew working together, although there are occasionally conflicts among them. When they are ashore visiting each other in the harbor master's quarters or even when out socializing in the bar, the talk is almost incessantly of fishing: technical and mechanical details of parts, catches, areas, timing of fish runs, past seasons, regulatory openings, price of fish, bottom conditions, navigation dangers, and of course, disasters. Wives usually listen attentively or break off to hold their own discussions, but fishermen always talk and live fishing. Two subsidiary values of fishing are the independence which owning your own boat brings and the autonomy and self-determination which fishing when and where you want (within regulatory bounds of course) brings. Jones (1976:30) termed these "symbolic" values.

A third important element of the "fishing as livelihood" cluster of values is the egalitarianism which fishermen express and act out. Jones (1976:38) commented that, "These men do not measure success in terms of earning higher incomes

than their fellows or advancing their interests at the expense of others." She further remarked that this was apparent in the distribution of earnings from the fishing endeavor when skippers "share profit equally with crew members" (Jones 1976:38). While one could not go so far as to say that they share profit equally, no complaints were heard from King Cove crewmen about the shares they received for their efforts which is a rarity among most crewmen in most other fisheries. Another example of the egalitarianism can be found in the reciprocal institution of sharing fish when limits are imposed on catches by the cannery. In these situations men who make big catches which exceed their limit give the excess to another fishermen with no expectation or receipt of any share of the surplus fish turned over to the other captains.

This reciprocal practice may be a function of the final example of the egalitarianism of the fishing. I asked repeatedly for identification of the "highline" fishermen; that is, those who year in and year out catch the most fish. Time and time again the reply was that there was no such group. Sometimes the response was everybody does about the same and on other occasions an example was given of how the top fishermen two years before had come in the bottom during the past season. Whether or not it is true that there is no consistent group of highliners, King Cove fishermen believe it to be true and value that belief enough to hold it.

**Exercise of Local Control.** The importance of the community of King Cove to its residents is manifested in a variety of ways. The first of these is interest in and practice of self-government in the city council and school board. King Cove residents who sit on these governing bodies share a core of beliefs about the nature and direction of their community and take their responsibilities in seeing them fulfilled seriously.

A second way in which the importance of local control is manifest is through self-sufficiency. One ex-school board member expressed an abiding suspicion of the "grants" which the Superintendent was always applying for. More directly, part of the City Council's rationale for continuing its sales tax on raw fish was due to its desires to maintain local control by not becoming too dependent on uncertain revenues from State and federal sources.

A third manifestation of the importance of local control can be found in the interaction with the cannery over the sales tax issue. The firmness of the board and their unanimity in face of direct and strong pressure from the cannery is noteworthy.



One final value which is related to the exercise of local control is the ability of residents to back locals in positions of local power. Although power politics is played and power changes hands on occasion, there is an ability in King Cove for this to take place without factionalizing the community to the point of impotence. Although those not in power may disagree privately about the course of action taken by those in power, they will rarely display public disagreement and virtually never seek to halt or alter the course of action. Part of this ability to retain a solidary sense of community may stem from leaders' sense of responsibility in treating all locals equally and avoiding using positions of local power as tools for obtaining personal or family advantage over others. An example of this type of stewardship may be seen in the distribution plan opted for by the village corporation in the recent conveyance of land to shareholders. The lots were by no means equally desirable yet all were distributed according to a lottery. On the other hand, assignment of families to houses in the new HUD development resulted in the head of the village corporation getting the house with the best view. A measure of King Covers' patience and restraint can be found in the fact that there were no hostile objections to this outcome.

### 4.3 FALSE PASS

#### 4.3.1 False Pass Introduction

The village of False Pass is picturesquely located on the eastern end of Unimak Island approximately one mile across Isanotski Strait from the western end of the Alaska Peninsula. It is 35 air miles from Cold Bay. The village is located on a beach berm and the outwash plain of a stream which drains the volcanic mountains west of the village. False Pass sits between the Bering Sea to the north and the north Pacific to the south and lies entirely within the boundaries of the Aleutian National Wildlife Refuge.

The outwash plain on which many of the homes of False Pass as well as the cannery are located is marshy and subject to occasional flooding. The 2700 foot airstrip which runs north-south behind the village was washed out in 1963. The village is located in a zone of intense seismic and volcanic activity; three active volcanoes lie within 30 miles of False Pass. These are Shishaldin, the highest peak in the Aleutians at 9372 feet, Isanotski (8025 feet), and Roundtop Mountain (6140 feet) at whose base False Pass sits. Soils in the outwash plain consist primarily of sandy gravels covered by six inches of topsoil; however, bedrock is composed of volcanic lava flows interspersed with ash and other rock debris.

False Pass is exposed to weather coming off the Bering Sea, but still receives considerable moderating influence from the warm moist air of the north Pacific. Weather is characterized by significant periods of cloudiness and fog, substantial rainfall, and strong unpredictable local winds. Weather suitable for visual flying necessary to land at False Pass occurs 75% of the time with the best months being October and November, and the poorest July and August. Fog can occur as much as 50% of the time in the summer while unfavorable flying winds are most frequent in the fall. "This means that when flying weather is other wise most favorable, strong surface winds present the greatest hazard, and when winds are lightest, flying weather is hampered by low visibility" (AEIDC 1978). In addition, in the winter, cold conditions can cause ice floe buildup in Bechevin Bay which connects Isanotski Strait to the Bering Sea. Severe conditions can cause ice floes to fill Isanotski Strait and pass on into Ihata Bay to the south. These floes can significantly endanger vessel movement through False Pass.

The water supply at False Pass is primarily from run off and has always been adequate, although groundwater appears

abundant as well. This fact, in addition to its close proximity to the productive fishery in Ikatan Bay and Unimak Bight, made False Pass an attractive location for a salmon cannery.

In the aboriginal and Russian contact periods, there were numerous Aleut settlements on Unimak Island, 12 being reported in 1840 alone, but the present site of False Pass was not listed among them. In addition, Sanak Island had several additional sites and at one time (1770's) was the center of the Russian sea otter trade. Aleut inhabitants of these two islands were regarded as a unit and called Quagagin (or "the Easterners") by their Aleut relatives from Unalaska and Unimak Islands (Black in Morgan 1980:82). Lydia Black (1980:82) has written that the Quagagin were widely feared because of their propensity to come upon other villages in large flotillas to burn and pillage.

Unimak was first explored by Stepan Glotov in 1759. Russian violence in pursuit of the sea otter trade is well-known and documented; Unimak Islanders were exposed to it in 1762 when the Russian skipper Bechevin (after whom the Bay was named), destroyed four Unimak villages before being stopped by other Aleuts. This apparently led other Unimak Islanders to join with Aleuts from Unimak, Unalaska, and the Krenitsyn Islands in 1763 to destroy four Russian vessels wintering in the area along with nearly 200 men (Black in Morgan 1980:99).

In 1766 a Russian naval vessel under the command of Krenitsyn chose to winter in Isanotski Strait in the midst of hostile and well organized Unimak Aleut villages. Krenitsyn's men were effectively bottled up so that they could not obtain foodstuffs from local sources or supplies from other Russians; this eventually led to the death of 39 men, most from scurvy (Black in Morgan 1980:91).

Gradually, Russian efforts moved eastward to the Alaska Peninsula, the Shumagins, Kodiak, and eventually Southeast Alaska. The Aleuts reverted to nearly a pure subsistence economy as Russian goods became scarce. By the early 1800's the Russians who remained in the Aleutians "lived like Aleuts"; many took Aleut wives and some even became polygamous. There was a veneer of Russian Orthodoxy as most Aleuts were baptized, but shamans continued to exercise considerable influence in the villages. Interestingly two Russian names from the late 18th century continue forward in False Pass today: Shelekov (now rendered Shellikof), head of a company which was well known for its forcible and involuntary abduction of Aleuts, and Kochutin (now rendered Kochuten), Shelekov's resident foreman in Unalaska. Shelekov's company

was eventually granted a monopoly charter by Emperor Paul and under Baranov's management the last vestiges of Aleut freedom gradually disappeared.

The coming of Father Veniaminov, the first resident Russian Orthodox priest, to the Aleutians in 1825 brought significant changes to the islands including hospitals and schools. Lydia Black (1980:103) has written the following of this era:

By the end of the 1820's life in the Aleutians stabilized; the Aleuts in Company employ received salaries; independent villages were paid for their furs in accordance with an established schedule of payments; social advancement was possible; Aleuts and Creoles...occupied managerial, decision-making positions.

Consolidation and relocation continued. Unimak Island Aleuts gradually congregated at Morzhovoi and on Sanak Island. However, a large percentage of Sanak Islanders were relocated to found the village of Belkofski in 1823 in order to preserve sea otter populations near Sanak and make better use of banks in the vicinity of Belkofski.

The transfer of the islands from Russian to American control made little initial difference, but gradually important new changes began to occur. In 1876 a salt cod industry began to develop in the eastern Aleutian area and shore stations for processing the fish were established at a number of locations from the Shumagins to Unalaska. Sanak Island became a shore station for the Union Fish Company and the Alaska Codfish Company (Bower 1922). Gradually the Aleut hunters began to take up fishing and by the 1910's, this industry, never a particularly lucrative one, was a mainstay for Sanak Islanders.

The next major occurrence to which the present community of False Pass can be traced is the expansion of the salmon processing industry into the area. The industry appeared locally in 1916 when Pacific American fisheries opened a cannery at Ikatan. At about the same time John Gardiner is said, by False Pass sources, to have homesteaded land at the present site of False Pass. In 1925 P.E. Harris got 40 acres from Gardiner and opened a cannery on it in 1928. The present location and distribution of houses in False Pass is a function of cannery ownership patterns; all private, non-cannery houses are built on land outside cannery control with one exception. The first area settled when the cannery was constructed was the beach berm to the northwest of the

cannery site. One Aleut home owner reported the house he lived in was built in 1929 which would make it one of the first homes in False Pass.

Fish traps put up in Ikatan Bay to intercept Bristol Bay bound sockeye salmon were the major source of fish for the False Pass and Ikatan canneries, but some purse seining was also done. Gradually, the Sanak Islanders turned to salmon fishing while it appears that villagers from Morzhovoi tended to work in the cannery itself. The chief of Morzhovoi, for example, served as bull cook at the False Pass cannery for many years.

Movement to False Pass from the villages of Ikatan and Morzhovoi was sporadic during the 1930s and 40s with the major move occurring when the Shellikof family purchased John Gardiner's house and took up year round residence in False Pass in the early 1950s. One or two households from Ikatan moved to False Pass in the 1950s as well, but the majority appear to have departed for King Cove and Sand Point, with a few taking up residence in Pauloff Harbor on Sanak Island.

The village of Pauloff Harbor on Sanak Island was able to persist for longer than the others, but despite its proximity to False Pass and "despite their long history of interdependence, False Pass did not attract a substantial number of Pauloff Harbor's...migrants" (Jones and Wood 1973:21). Jones and Wood (1973:21) go on to note that only 13% of the population which departed from Pauloff Harbor between 1960 and 1970 were attracted to False Pass with the remainder going to Sand Point. The primary reasons given for this movement was the better harbor in Sand Point, the broader economic base (crab processing in addition to salmon), and the familiarity with the community due to having large enough vessels to frequent Sand Point (Jones and Wood 1973:21).

In addition to Aleut residents from other villages in the area, False Pass has also been home for several Scandinavian fishermen and cannerymen over the years represented by such names as Van Neer, Larsen, and Steffanson.

It is readily apparent that False Pass has never been a large community (see Table 4.3.1). Nevertheless the cannery operation has provided an economic basis for at least some residents but has never provided the opportunity for growth. The closing of the cannery in 1974 was a substantial loss to the local residents yet none of the people contacted during this study had considered moving from False Pass at that time. The reopening of the cannery in 1977 was a great boon but the community is once again in a situation of uncertainty due to the burning of the cannery in the spring of 1981.

Table 4.3.1

HISTORICAL TRENDS IN POPULATION:  
FALSE PASS, IKATAN, MORZHOVOI, AND SANAK ISLAND

	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980
False Pass					59	88	42	41	62	65
Ikatan							29			
Morzhovoi	68	81		60	22	17				
Sanak Island <sup>1</sup>	132	14		107	74	61	68	77	39	15

<sup>1</sup> Combines Pauloff and Company Harbor figures.

Source: U.S. Census and Alaska Department of Labor

The present False Pass is an unincorporated village with no land base and few services. None of the occupants or owners of houses own the property on which their structures rest. There is one road in the village which leads west to the dump, and there are presently three pickup trucks in the village, one of which is owned by the cannery. Local transportation is primarily by three-wheel motorcycles which serve multiple duty as recreation and transport vehicles. There is a boardwalk which connects cannery buildings and some of the residences. There is no central water supply, although the cannery's water system is used by most residences. There is no central electricity with most homes maintaining their own small diesel generators. The village health aide uses a small clinic in the community building which also houses the single village telephone. When operating, the cannery had its own nurse and clinic. There is a cable TV system which uses tapes of Seattle stations which most of the community is connected to. This is an entrepreneurial venture of a local family which has already paid for itself. The only store in the community is the cannery store which supplies canned and frozen goods, some clothing and work gear, and books and magazines.

#### 4.3.2 False Pass Demography

Population Trends: Past, Present, Projected. The population history of False Pass and the villages from which its present residents come is presented in Table 4.3.1. The community experienced some growth during the decade from 1970-1980 as several new families were established. During the last half of the decade, three new residences were constructed primarily as a result of prosperous fishing seasons. Those new homes are a clear indication of the commitment of the younger generation to live in False Pass. During the summer of 1981, another home was constructed into which this fall moved a young man from King Cove, his wife from False Pass, and their infant son. It should also be noted that one very large family headed by a successful and highly respected fishermen moved from False Pass to King Cove in the latter part of the last decade due to the lack of a good high school program in False Pass.

There is little reason to project much change in the population size of False Pass. If a salmon processing facility is rebuilt, the village will probably experience some slight growth mainly from natural increase. If the cannery is not rebuilt, the village will probably experience a slight decline, but it is unlikely to disappear due to its strategic location for fueling, water and food. Two unlikely occurrences might conceivably cause substantial growth in the

next five to ten years. If False Pass were to become a major staging or storage area for OCS development, this could result in substantial short-term growth and impact merely because the community is so small. If a multiple species seafood processing plant was built to work year round on salmon, crab, and bottomfish, significant growth might occur.

**Population Structure: Age, Sex, Ethnicity, and Household Size.** The population of False Pass during the summer of 1981 was 65 with two additional individuals who live nearby at Castle Rock also being considered part of the village. Table 4.3.2 presents the age and sex structure for the community. As is fairly typical of rural Alaska, males compose 55% of the population while females are 45%. Somewhat out of the ordinary is the high preponderance of females in their 20s, a cohort which is often underrepresented in village Alaska. The age structure shows a healthy 40% of the total population under 19 with eight children age five or under. The two most recent births represent the first child in new families which implies good potential for additional growth.

Sixty of the 65 residents (92%) of the population are Aleut.

Table 4.3.3 presents data on the size of households in False Pass. One new home was under construction during the summer of 1981 by a young man and his father. Upon completion, he and his wife and child will move out of the home of his father-in-law creating two households, one with four members and one with three. This will further reduce the average household size in False Pass.

#### 4.3.3 False Pass Socioeconomic Organization

##### **Fisheries: Commercial Harvesting**

**General Overview: Strategies and Species.** Salmon fishing and processing is virtually the sole source of cash income for residents of False Pass. Local residents have worked for the canneries or fished for the canneries for over 50 years. In the early years of the century, a salt cod fishery was important to the area and the settlements on Sanak Island were closely tied to this enterprise. By 1940, however, this fishery had died out, and ever since that time False Pass residents have been dependent on the salmon fishery. Despite periods of decline in the 1950s and again in the late 1960s, the False Pass cannery has canned continuously since 1928, except for 1974-76 and again in 1981 when the cannery burned down. Local fishermen have never engaged in either the crab fishery which goes on virtually out their front door off Amak Island in the Bering Sea, nor in the



Table 4.3.2

## FALSE PASS POPULATION BY AGE AND SEX, 1981

Age	Number	Male	Female	Age Cohort % of Total Population
70+	2	1	1	3.1
60-69	3	2	1	4.6
50-59	6	4	2	9.2
40-49	4	2	2	6.2
30-39	10	7	3	15.4
20-29	14	5	9	21.5
11-19	13	8	5	20.0
6-10	5	2	3	20.0
0-5	8	5	3	20.0
Total	<u>65</u>	<u>36</u>	<u>29</u>	<u>100.0</u>

Table 4.3.3  
FALSE PASS HOUSEHOLD SIZE, 1981

<u>Household Size</u>	<u>Number</u>	<u>Total Persons</u>
1	3	3
2	4	8
3	4	12
4	2	8
5	0	0
6	3	18
7	1	7
8	0	0
9	1	9
	<hr/>	<hr/>
Total	18	65

Average number per household: 3.6

halibut fishery south of them in the North Pacific. Several local men have gone as crewmen on King Cove, Sand Point, or Seattle crabbers during years when the salmon run was a bust. At least one local person has captained such a vessel.

Salmon fishermen of False Pass hold Alaska Peninsula (Area M) limited entry permits for purse seine, gillnet, or set gillnet fishing. There is one predominant strategy of gear combination pursued by the local fleet with several variations. False Pass fishermen primarily combine drift gillnetting with beach seining. In addition, several fishermen have in the past also set gillnetted, and at present it appears that one or two fishermen may be tending toward strict specialization in drift gillnetting. Although a number of set net permits are held by False Pass residents, this gear type was used by only one local fisherman in 1981.

The predominant strategy of combining drift gillnetting and beach seining was carried out by five captains during the 1981 season and as many as eight have captained vessels pursuing this strategy in the recent past. This strategy involves drift gillnetting for reds (80%) and dogs (20%) during June, primarily at East Anchor Cove and Ikatan Bay. Following closure of this fishery in late June, the pattern of the last two or three years has been for most of these fishermen to travel to Port Moller to drift gillnet for ten days to two weeks. Then they return to False Pass to prepare for beach seining which is then carried out until early September.

Drift gillnetting as a single strategy for the entire season was pursued in 1981 by two brothers who in the past had typically shifted to hand purse seining in July. In addition, there was one individual who set netted in Ikatan Bay during June 1981.

Minor variations on this basic False Pass strategy involve the incorporation of set gillnetting. One family has a registered set net site on the north side of Unimak Island at Urilia Bay where in past seasons they fished for the early reds that show up there. More recently it appears they have been beach seining in that area. Late in the season set gillnetting is also done for silvers.

Another minor variation is occasionally travelling west to check out the appearance of pink salmon in Makushin Bay on Unalaska Island. In 1980, for example, two False Pass fishermen made excellent catches there. They reported going there one day and, finding the bay plugged, each made a very large set and then they returned to False Pass.

No bottomfishing, commercial crabbing, or halibut fishing has been done in the past five years by False Pass fishermen. Two fishermen reportedly fished for halibut in the mid-70s when salmon runs were weak.

Of the salmon species, dog salmon have been the most important to False Pass fishermen in the past two seasons. Red salmon are second in importance being the primary species harvested in June in the South Umiak fishery as well as in July at Port Moller. Pink salmon are third in importance for False Pass fishermen being harvested from streams near the village in Isanotski Straits, Bechevin Bay, and Ikatan Bay for the most part. Silver salmon, now a minor species, have in the past played a significant role being the subject of a special targeted commercial fishery in September. King Salmon are extremely rare, usually only being caught in the June Unimak fishery.

The area is rich in other species; however, lack of a market, seasonal conflicts (halibut), and vessel size mitigate against False Pass fishermen easily switching over to other species.

Limited Entry Permits. Alaska's limited entry program for the salmon fisheries, along with the 200-mile limit and a series of mild winters, has been responsible for the never-before-experienced levels of income which many False Pass fishermen have attained in the past four to five years. Permits for salmon fishing in the Alaska Peninsula district were first awarded in 1975 when the majority of False Pass fishermen received them. They received permits in all three gear areas: purse seining (no distinction made between beach and limit seining), drift gillnetting, and set gillnetting.

As of early 1980, False Pass residents held the following Alaska Peninsula area salmon permits: seven purse seine, nine drift gillnet, and seven set gillnet or 23 permits in the hands of 10 individuals. This distribution is presented in Table 4.3.4. Permit concentration in False Pass is higher than in any other Alaska Peninsula community, perhaps higher than in any other community in the state. The distribution presented above produces an average of 2.3 permits per holder. Fifty percent of the permit holders held all three permits, and 30% held two. Thus only 20% or two holders held but a single permit. There were no female permit holders in False Pass in 1980 as females traditionally have worked in the cannery while the men fished.

There have been several changes in permit distributions since 1980. During the fieldwork in 1981 it was discovered

Table 4.3.4

FALSE PASS PATTERNS OF LIMITED ENTRY PERMIT HOLDINGS  
1980

Permit Holding Pattern	Number of Cases	Total Permits
Purse Seine, Drift Gillnet, Set Gillnet	5	15
Purse Seine, Drift Gillnet	2	4
Purse Seine, Set Gillnet	0	0
Drift Gillnet, Set Gillnet	1	2
Purse Seine	0	0
Drift Gillnet	1	1
Set Gillnet	1	1
Totals	10	23

Average permits per holder: 2.3

that at least three of the set gillnet permits once held by False Pass residents have been transferred to non-locals. The permits are now held by residents of the Kenai-Homer area who have actively pioneered new set gillnet areas in Morzhovoi Bay and Cold Bay during the last two seasons. In addition they have also attempted to set gillnet in other areas, for example St. Catherine's Cove on the northeast corner of Unimak Island. There they discovered, as they were informed by False Pass residents, that set gillnets would not work in the northside areas due to strong tidal flows and abundance of eel grass which alerts the fish to the presence of the net. Thus far none of the more critical purse seine or drift gillnet permits have been transferred out of False Pass.

Areas and Times Fished. False Pass fishermen show less individual variability in areas and times fished than is found in King Cove and Sand Point. This discussion will treat the major times and areas fished according to the dominant strategy outlined above with important seasonal and individual variations noted as well.

Salmon fishing in the Alaska Peninsula area has begun in recent years on May 1 for most districts on the northside of the Peninsula and on June 1 for all the southside districts. There are weekly openings and closings for salmon fishing in addition to this general seasonal opening; on the northside, most areas are open from 6:00 am Monday until 6:00 pm Thursday during the season with several minor differences in sub-areas. On the southside, districts are only opened on an emergency basis by ADF&G personnel. Despite these formal regulations, fishing does not start until the fish arrive, the fishermen are able to fish, and the processors are ready to handle the fish. In False Pass fishing gets a gradual start during the first days of June. The June peak of the fishermen's efforts, in both drift gillnetting and set gillnetting, is concentrated in the South Unimak district from the 15th to the 25th.

Following the end of the South Unimak fishery in June, some of the False Pass fleet returns to False Pass to change over to beach seine gear, while others travel to Port Moller to fish the Sandy and Bear River red salmon runs. Half of those who go to Port Moller return within ten days to two weeks to begin beach seining in Izembeck Lagoon with the other False Pass boats that switched to beach seine gear immediately after the closure of the South Unimak fishery.

The Izembeck-Moffett Lagoon fishery has been the major False Pass fishery in years when dog salmon runs to these streams are good. This fishery normally takes place from about the tenth of July to the first week in August. The

usual pattern is to fish the Moffett (north) end first and the Glazenap (south) end later, but it was reversed in 1981 due to the late arrival of Moffett fish. Because of the treacherous sand bar in Izembeck proper, fishermen must often return to the Bering Sea in order to move from one end to the other. This often requires them to wait for appropriate tidal and weather conditions and can mean the loss of a significant amount of fishing time.

On the north side of Unimak Island are two important red salmon systems, Swanson's Lagoon and Urilia Bay, which are fished almost exclusively by False Pass fishermen. These systems can, in certain years, make a sizeable contribution to the earnings of several False Pass fishermen. The systems are not large enough, however, to support the entire False Pass fleet. One other smaller system, St. Catherine's Cove, is also fished. These streams are usually receiving fish during the first part of July so False Pass fishermen typically look them over before proceeding to Moffett.

Following the completion of the Moffett fishery, False Pass beach seine fishermen move into Isanotski Strait to fish streams in the vicinity of False Pass proper. They will usually fish for pink salmon in local streams, those in Ikatan and Morzhovoi Bay and as far east as Thin Point. They have been known to fish as far east as Volcano Bay, but that is relatively unusual.

In the past the Department of Fish and Game used to establish a special silver salmon season beginning the first of September. False Pass fishermen would typically fish for silvers during this brief 10 day period in Swanson's Lagoon and in streams in Isanotski Strait. Occasionally they proceeded to Thin Point which has a large silver run. Generally, False Pass beach seine fishermen are through with salmon fishing for the year by the 15th of September.

The drift gillnetters stay at Port Moller and accompany the fleet to appropriate areas as the season passes. Set gillnetting is done in the Ikatan Bay during June, and, as noted previously, this is now carried out primarily by non-locals. Some set gillnetting might be done in the Swanson's Lagoon area for silvers in August.

**Fleet Characteristics.** The False Pass fleet is, in general, a very new fleet which is the result of the recent prosperity of the salmon fisheries. As might be expected from the discussion of strategies pursued, vessel type is fairly standard. The predominant vessel type is from 34 feet to 42 feet in length and can be outfitted for both drift

gillnetting and hand purse seining. There are no limit seine vessels nor vessels equipped with live holding tanks in False Pass. There are three other vessels which are primarily gillnetters, but, as in King Cove, they are used for beach seining on occasion as well. Two other 32 foot vessels are used for set gillnetting.

Table 4.3.5 summarizes data on age, length, and value of False Pass vessels. As can be readily observed, 50% of the vessels are three years old or younger and all of the 34 to 42 combination vessels are three years old or less.

Value of the vessels is also apparent from the table. The older 32 foot vessels average \$43,000 in value. The 34 footers average \$115,000; the 38 footer is worth \$160,000; and the 42 footers average \$200,000. In addition to these vessels, the beach seining unit requires two wooden skiffs each equipped with outboard engines.

Fishing gear is another additional necessary component of the fisherman's profession. Present gear costs for drift gillnetting and beach seining in False Pass are presented in Table 4.3.6.

False Pass fishermen have made use of the State loan program and private financing to purchase their new vessels. In FY 80 two state loans for vessels were obtained by False Pass fishermen for a total value of \$235,000. One fisherman said he hoped to have his loan paid back by the end of 1981, while the other indicated he was having problems making his payments. Since such loans are normally made for 15 years, repayment in a three-year period is evidence of the phenomenal level of earnings obtained in the Alaska Peninsula salmon fisheries in the last several years.

In sum, the False Pass fishing fleet has undergone a dramatic transformation in the last three years as newer, larger fiberglass vessels with more comfort and hold capacity have been purchased. The fleet is still a purse seine fleet with no capability for seriously engaging in the crab fishery or bottomfishery with trawl gear.

Vessel Economics. The Alaska Peninsula salmon fisheries have been extremely profitable for the last four to five years, as was apparent from the earlier discussion of the characteristics of the False Pass fleet. Qualitative reports suggest that False Pass fishermen realized comparably excellent seasons in 1980 and 1981. One source reported that a False Pass captain had grossed close to \$500,000 in 1980 combining purse seine and drift gillnet earnings. Several



Table 4.3.5

## FALSE PASS FISHING VESSEL AGE, LENGTH, AND TOTAL VALUE, 1981

Length (ft.)	Pre-										Total Vessels	Total Value
	81	80	79	78	77	76	75	74	73	73		
31 - 33							1	1	1	2	5	\$215,000
34 - 36	1		1								2	230,000
37 - 39		1	1								2	160,000
40 - 42		1	1								2	400,000
Total	1	2	3	0	0	0	1	1	1	2	11	\$1,005,000
Average Value:	\$100,500											
Average Age:	7 Years											
Median Age:	5 Years											
Average Length:	35 Feet											

Table 4.3.6

## FALSE PASS FISHING GEAR ESTIMATED COSTS, 1981

## Beach Seining

200 fathom seine	\$ 6,000	
Seine skiff (24 ft.)	3,000	
End skiff (18 ft.)	2,000	
35 hp outboards (2)	4,000	
Power block	3,000	Total, \$18,000

## Drift Gillnetting\*

Reel and hydraulics	5,000	
Southside gear		
200 fathoms, 150 mesh	6,000	
Northside gear		
200 fathoms, 50 mesh	4,000	Total, \$15,000

\* Many fishermen have one or two additional nets as spares for use in case of emergencies.

False Pass fishermen are members of a tax protest organization and IRS agents were in this community (as well as King Cove, Sand Point, and Nelson Lagoon) during the spring of 1981.

False Pass drift gillnet crewmen reported receiving 20% of a vessel's gross earnings. Beach seine units showed considerable variability in crew shares. One young skipper using his father's purse seine permit reported paying 10% of the gross earnings for the permit, 20% for the lease of the vessel he was using, 22 1/2% to each of two crewmen, leaving a mere 25% for himself. A crewman on a three-person crew vessel reported earning 16 3/4% of the gross, and another crewman on a two-person vessel reported receiving an 18 1/2% share of the gross. The range for beach seine crewmen appears to be from about 15% to 22% depending on the vessel, number of crew, captain's experience, and crewmen's experience.

Crew Composition. Different fishing strategies are carried out with different crew complements. Drift gillnetting and set gillnetting are normally conducted by two-person crews. Beach seining is done with three or four. The smaller vessels tend to have a captain and two crewmen while the recent tendency on the larger boats has been for the captain to employ an additional third crewman.

Crews are roughly 50% local and 50% nonlocal. Local crewmen are typically sons, but a few local males whose fathers are not fishermen can usually find a position on one boat or another. There are a few local teenage males who did not fish during the 1981 season. Of the 50% nonlocal crewmen, roughly a third are the brothers of a white woman married to a False Pass fisherman. Other nonlocal Aleut crewmen come from Unalaska and King Cove. Most of the crewmen are males in their teens or twenties. During the 1981 season, three women, two wives and one ex-wife fished with their husbands, but this is a very recent phenomenon since women have traditionally worked in the cannery.

In sum, crew patterns in False Pass show roughly a 50-50 split between local and non-False Pass crewmen with about 40% being of the nonlocals being non-Aleut.

Landings and Earnings. Salmon landings and earnings increased dramatically twice for False Pass fishermen over the period from 1975 to 1980. Table 4.3.7 displays the aggregate annual salmon catch taken by False Pass fishermen from 1975 to 1979 showing the tremendous leaps in earnings in 1976 and again in 1978. The community aggregate average annual salmon catch for the period was 1,371,000 pounds worth \$634,000. Based on an average of 8.8 gear operators per year, these

Table 4.3.7

FALSE PASS TOTAL SALMON LANDINGS AND EARNINGS  
1975 - 1979

	1975	1976	1977	1978	1979	Average
Number of Gear Operators	6	8	9	10	11	8.8
Total Landings (1,000 pounds)	134	1281	1098	2586	1755	1371
Total Earnings (\$1,000)	54	376	422	1121	1196	634

figures translate into an average catch of 156,000 pounds worth \$72,000 per gear operator.

The degree of change which occurred in the salmon fishery over this period is best revealed by comparing performance in 1975 (the worst year) with that of 1978 (best landings) and 1979 (best earnings). In 1975, total salmon landings were 134,000 pounds worth \$54,000 for a per gear operator average of 22,333 pounds worth \$9,000. Comparative figures for 1978 were total landings of 2,586,000 pounds for a per gear operator average of 258,000 pounds, a twelve-fold increase. Salmon earnings in 1979 totaled \$1,196,000 for an average of \$108,727 per gear operator, a similar twelve-fold increase.

The number of gear operators nearly doubled over the period from a low of six in 1975 to a high of 11 in 1979.

Aggregate and average catch and earnings figures mask extraordinary degrees of variation in the performance of False Pass fishermen. In 1975, the lowest total catch by individual gear operator was 12,600 pounds and the highest was 30,000 for a range of 2.4. However, in 1978 the low catch was 8,000 pounds and the high was 450,000 for a range of 56; in 1979 the low catch was 11,700 pounds and the high was 356,000 pounds for a range of 30. The emergence of this extraordinary range is a reflection of the maturation of several hard-driving young fishermen who were able to upgrade their vessels and vigorously pursue the Izembeck-Moffett Lagoon fishery.

There is little gear type strategy variability to speak of in False Pass since the overwhelming strategy is Type II combining drift gillnetting and beach seining. This may change in the future since Type VI (drift gillnetting only) strategy appears to be emerging in the community. Table 4.3.8 summarizes average landings and earnings by gear type from 1975 to 1979. One note of interest in the False Pass data is that 1978 was a more productive year in both landings and earnings than 1979 for Type II fishermen unlike all other gear type strategies. This pattern is also characteristic of Type II fishermen in both Sand Point and King Cove as well but it is not clear why this fairly uniform pattern occurred.

#### Developmental Trends

Vessels. Two fishermen, one with a three year old boat and another with a brand new boat ('81), stated that they intended to purchase new boats as soon as they were able. Both were considering something essentially similar to what they already had, perhaps a little bigger than what they have now, but nothing radically different. Both were concerned

Table 4.3.8

## FALSE PASS FISHERMEN'S AVERAGE SALMON LANDINGS AND GROSS EARNINGS BY GEAR TYPE, 1975 - 1979

Gear Type <sup>1</sup>	1975	1976	1977	1978	1979	Average
Type I: PS, DG, SG						
Gear Operators	(1)	(1)	(1)	(2)	(1)	(1.2)
Average Landings (lbs.)	12,630	73,654	207,230	238,140	123,202	130,876
Average Earnings	\$ 5,729	\$ 23,102	\$ 85,950	\$ 96,141	\$ 79,951	\$ 64,504
Type II: PS, DG						
Gear Operators	(5)	(6)	(6)	(6)	(7)	(6)
Average Landings (lbs.)	25,086	200,912	197,751	348,641	227,255	206,241
Average Earnings	\$ 9,572	\$ 58,590	\$ 55,535	\$153,022	\$130,997	\$ 85,591
Type VI: DG						
Gear Operators	(0)	(0)	(1)	(1)	(2)	(0.8)
Average Landings (lbs.)			4,390	9,526	63,847	35,380
Average Earnings			\$ 2,731	\$ 6,957	\$ 73,694	\$ 39,269
Type VII: SG						
Gear Operators	(0)	(1)	(1)	(1)	(1)	(0.8)
Average Landings (lbs.)		2,966	312	7,991	11,792	5,765
Average Earnings		\$ 998	\$ 197	\$ 3,399	\$ 6,532	\$ 2,781

<sup>1</sup> PS - Purse Seine  
 DG - Drift Gillnet  
 SG - Set Gillnet

that the new boats be able to negotiate the shallow waters that they customarily fish in Swanson's Lagoon, Urilia Bay and Izembeck Lagoon. There were no fishermen identified who were interested in large vessels capable of crabbing in the Bering Sea. Younger fishermen presently leasing boats indicated an interest in buying combination boats. There was no expressed interest in purely drift gillnet boats. Unlike their counterparts in King Cove, False Pass fishermen displayed no interest in obtaining vessels that could limit purse seine, no interest in deeper seines and larger skiffs, and no interest in addressing their deteriorating competitive position as drift gillnet fishermen in the South Unimak fishery through institutional means. Several did, however, express dissatisfaction with the increasing proportion of the catch being taken by purse seiners.

**Areas.** False Pass fishermen are expanding into the Port Moller area through specialization (drift gillnet only fishermen) and through intensification (drifting at Port Moller for several weeks before changing to beach seining). There is little evidence that they are expanding eastward on the southside into areas normally fished by King Cove and Sand Point vessels.

**Gear.** The only apparent trend in gear type is the tendency to abandon set gillnetting. Drift gillnetters have added northside gear so they can fish red salmon in the Port Moller area.

**Permits.** The major trend identified with permits is for set gillnet permits to be sold out of the community. A second possible trend, one identified clearly in King Cove and Sand Point, is for purse seine and drift gillnet permits to be split with one, the purse seine permit in this case, being farmed out on a lease basis. There is only one possible case of this pattern and the evidence is largely circumstantial. The final trend is to use the drift gillnet permit as much as possible during the season. There is no evidence of additional permits being purchased by False Pass residents.

**Species.** The only evidence here is of declining emphasis on the September silver season, primarily due to the present abundance and lucrativeness of dogs and reds. Dogs have been very important in recent seasons but this does not represent a major shift in strategy by False Pass fishermen.

**Sum.** The response of False Pass fishermen to their recent prosperity has been to purchase new boats and perhaps slightly intensify their efforts on dogs and reds, while de-emphasizing silvers. There is also evidence of areal

expansion in the Port Moller area not customarily frequented by most False Pass fishermen.

#### Fisheries: Commercial Processing

History. The False Pass cannery was opened in 1928 and operated continuously until 1974. It reopened in 1977 and operated until it burned in 1981. The cannery was owned and operated by the P.E. Harris Co. until 1961 when it was purchased by Peter Pan Seafoods which has operated it since that time. In 1965 a joint operating agreement with New England Fish Company was negotiated whereby Peter Pan would can fish caught by New England Fish Company fishermen.

In the 1930s, 1940s, and 1950s salmon for the cannery came from pile traps situated in Ikatan Bay. To this day headlands in Ikatan Bay are referred to as "No. 8" or "No. 6" which refer to the number of the traps that used to be located at that spot. Interestingly, none of the younger generation are aware of the origin of the numbers.

Canned salmon has always been the primary product of the False Pass cannery. In 1963, salmon roe began to be an additional product but no crab processing or cold storage facilities were ever added.

The plant normally packed South Unimak fish, the drift gillnet catch from Port Moller (reds), and the dog salmon catch from Izembeck Lagoon. Since 1977 it has been available to Peter Pan as a backup to King Cove for processing surplus pink salmon as well as fish that could not be handled in Bristol Bay. As a result of the tremendous run in recent years, the cannery has been running at near full capacity since 1977. A cannery record was set in 1980 when 237,000 cases were packed.

One of the unique and interesting aspects of fish processing at False Pass is the local processing of silver salmon in the fall. A number of local fishermen, usually two to four units depending on the year, catch and salt silver salmon for the firm of Burser and David in Seattle. Fish are caught, cleaned, filleted, and then packed in layers alternating with salt in wooden barrels. Fish and Game records report this activity for two to four False Pass fishermen annually since 1960; a fishermen in his mid-30's reported doing it as long as he could remember. In good seasons, nearly 2000 silvers were processed this way. Fishermen reported engaging in this activity primarily as a mechanism to get a winter food order from Seattle. They reported being paid \$400 a barrel; it takes 70-75 fish to make

a barrel. The prosperity of the past few seasons has eliminated the need for this additional income although it was done in 1979 by one good fishermen.

**Current Operations.** At present False Pass has no processing facilities. It does, however, operate as a maintenance base for the local fleet. A carpenter and mechanic/electrician are maintained there. Fuel (both diesel and gasoline) is available from the bulk tanks and food and a limited amount of gear are available from the cannery store. The Superintendent coordinates tender and fish movement from the northside of the Peninsula with the main office in King Cove. Limited housing is also available for fishermen and their families in one room apartments of very low quality. Four local men and one woman were employed in the maintenance operation during 1981. Table 4.3.9 summarizes recent production and value statistics for the False Pass Cannery.

It is estimated by Peter Pan officials that an average of 30% of the raw fish input for the False Pass cannery was purchased from the local fishermen.

**Employment Patterns.** In the early and mid-1970's the False Pass cannery normally had a crew of about 120 but increasing quantities of fish boosted the figure to 240 in 1980 and required two additional bunkhouse be brought in. In the early 70s, the local crew consisted of 20 to 25 persons including teenagers, most of the local women (except those with infant children) and several local men. The men served as cooks, machinists, maintenance men, and carpenters, medium-skill level positions. Usually four men were employed. By 1980 the size of the local component of the workforce had shrunk to 10 to 12 most of whom were teenage girls. Following the burying of the cannery in 1981, only two False Pass residents sought employment in King Cove. Several local men continued to be employed but local women seemed to be dropping out of the workforce apparently due to the increased earnings of their husbands.

The non-local workforce is predominantly Filipino derived from ILWU #37 out of Seattle. About 35 non-local Whites were employed in skilled and semi-skilled positions while the Filipinos worked on the canning line.

Local wages are the same as at the King Cove cannery, both plants being covered by the same labor agreement. The general labor hourly wage for 1981 was \$5.29 while the semi-skilled hourly wage was \$6.15. Twenty percent of the workforce from the local population is considered skilled or semi-skilled and the remaining 80% are general category



Table 4.3.9

## FALSE PASS SEAFOOD PROCESSING STATISTICS, 1979 - 1980

	Input	Output
1979	11.3 million lbs. \$ 7.7 million	7.5 million lbs. \$ 16.7 million
1980	18.9 million lbs. \$ 9.2 million	11.8 million lbs. \$ 25.1 million

workers. The False Pass Superintendent reported that a season's earnings for line workers in 1979 was worth roughly \$7500 and in 1980, \$8000. Machinists, mechanics, and carpenters averaged \$15,000 in 1979 and \$16,000 in 1980. Local residents reported earning \$4-6000 in 1980 working on the line which would appear to imply that they worked fewer hours than the other workers. This is not unlikely given the high level of earnings by fishermen in their families in which they shared.

**Community-Processor Relations.** To a greater degree than any other Alaska Peninsula community, the cannery is the central, dominating institution in False Pass with no other balancing or countervailing institutions. As a result the community is more dependent on the cannery for income, services, and goods than elsewhere. This provides the Superintendent with a tremendous amount of influence within the community since household welfare in terms of store credit, vessel loans, vessel repairs, transportation, and equipment purchases are ultimately dependent on his goodwill. For his part, the Superintendent feels a strong sense of responsibility to the people of the village and counts many of them as his close personal friends. Having served at False Pass since the early 1950's, a fairly strong bond of respect and trust has developed between the present Superintendent and the village, especially the fishing captains for whom he helped obtain vessel financing and equipment. He employed more local men in 1981 than needed to be due to this sense of responsibility. The community attitude is in general positive towards the cannery, but, of course, occasional animosities emerge. There is at present considerable anxiety fostered by uncertainty over Peter Pan's decision on whether to rebuild in False Pass or not.

Most local residents do not appear to be bothered by the influx of transient summer workers, and several expressed mild disappointment due to the lack of activity in False Pass during the summer of 1981. Caucasian workers indicated there was a considerable amount of animosity in 1980 primarily due to young Filipinos agitating for higher paying skilled positions held by Whites. The local Aleut population was apparently not involved in the several fights between Whites and Filipinos that occurred.

**Developmental Trends.** At present the crucial unmade decision upon which much of the future of commercial fish processing in False Pass depends is whether or not the cannery is going to be rebuilt.

#### Other Economic Activities

There is virtually no commercial economic activity in False Pass other than that associated with commercial fishing or processing. There is no local municipal government, however, the local village council has received funds that have been used in the past for a village secretary, a part-time position to keep track of correspondence and financial records, and for telephone attendants. There is a part-time postmaster position which is federally funded. In association with the school, there is a part-time janitorial position and for awhile there was a part-time aide position. There is a village health aide funded by the PHS. There are no private businesses other than the cannery with exception of the local cable TV operation which is an entrepreneurial venture undertaken by one family. Despite the fact that their initial investment has been completely paid off in less than three years, the family considers the TV operation to be more of a service than a profit-making enterprise. The member of the family primarily responsible for the operation indicated a desire to see State-supported satellite TV supplant the local tape system. One person is employed four hours a day to play the tapes.

Trapping historically has been an important activity on Unimak Island. Despite the abundance of wolf, land otter, and fox, only outsiders from Kodiak apparently trap on the island now.

#### Subsistence

Subsistence harvesting of local resources for household consumption and intravillage distribution is a significant focus of activity for False Pass residents, both male and female. The vicinity of False Pass supports an abundant and diverse wildlife population as testified to by the fact that Unimak Island is part of the Aleutian National Wildlife Refuge.

The two major staples for local consumption are caribou and salmon. Caribou are available on the north shore of Unimak Island from Swanson's Lagoon to Urilia Bay, but they are occasionally available on the outskirts of False Pass itself. The Unimak herd dropped sharply five years ago, but has rebounded to a population of about 1500. Among the six heads of household interviewed on subsistence the range of caribou taken annually varies from two in a household in which 80% of the protein comes from outside (and whose head takes pride in not depending on local foodstuffs) to 15 by the head of a household who provides for a household headed by his father in addition to his own family. The remaining

households fell in the six to ten caribou per year range.

Of the salmon species, silvers and reds were mentioned by all household heads as items they harvested for winter consumption. Reds were frozen while silvers were dried, smoked, and salted. The range of fish (all salmon combined) put up went from a high of 500 to a low of 100. Most responses were at the lower end of this range between 150-200 fish per household with the size of the household also being an important indicator of how many fish were put up. The silvers are generally taken from Urilia Bay or Thin Point.

Two heads of households and several non-local Aleut crewmen reported continued consumption of choomlaw. This is an Aleut delicacy consisting of partially fermented backs and heads of dog and pink salmon.

Beyond these staples, there were a wide variety of other resources mentioned by five of the six household heads. Ducks and geese taken in the fall from Morzhovoi Bay seemed to be a great delight to most of the males. Halibut, cod, and crab were all prominently mentioned as occasionally being eaten but only the halibut were frozen. Other seafood that was mentioned as important were baidarkis, clams, and "cuttlefish" (octopus). One particularly subsistence oriented young head of household reported commonly taking blue mussels and sea eggs (urchins).

An item that was prominently mentioned by 2/3 of the households was seal oil. At least two heads of household referred to it by its Aleut name, chudow. No other use of sea mammals was reported.

There are a wide variety of edible local greens which are intensively used by a White family settled near False Pass. They reported that few of the villagers made use of the abundant greens in the area. Villagers generally reported rare use of pachuskies (beach celery) and puscky stalks. An older white reported that in the 1940's when he first arrived, greens had commonly been dried for winter consumption.

Although greens are rarely sought, berries are a delicacy which every household collects in great abundance. The most important berries to the local population are moss, salmon, blue and cranberries. On clear days it seemed like the entire town was out picking berries at one time or another from the preschoolers to the retirees. The berries are frozen, jarred, and turned into preserves.

Subsistence activity provides a significant amount of

protein for residents of False Pass. Three households reported deriving 80% of their protein from local sources and 20% from outside. Two households reported a 50-50 split on protein and the final head of household took pride in the fact that only 20% of his protein came from local sources. For the three households most active in subsistence production it was clearly a major activity through which they exemplified their Aleut identity.

Although one might suppose that subsistence activities had dropped off in recent years because of high incomes, that does not appear to be the case for all resources. It was reported that local use of caribou has gone up in recent years largely as a function of the suitability of three-wheelers for travel over the island terrain. The increased access and transport capabilities of these vehicles makes caribou hunting significantly easier. Subsistence use of other resources may have declined for the village as a whole; however, several households persist in intensive subsistence activity despite high incomes.

Subsistence activities are highly valued by residents of False Pass for a number of reasons. They are culturally valued due to being raised doing them. They provide preferred foodstuffs which are nutritionally valuable. They provide opportunities for recreating, socializing, and expressing Aleut identity. Finally, they are an important contributor to the social cohesion of the village by being a major means of exchange and distribution between kinsmen and other villagers.

#### 4.3.4 False Pass Social and Political Organization

##### Social Organization

**Kinship.** Kinship relationships are the key element to social organization in False Pass. They provide the basis for informal aid, social interaction, socialization, recreation, and economic activity. At present, descent is reckoned in the patrilineal fashion dominant in the United States with bilateral recognition of kinship relationship. There are a number of special kinship phenomena apparent in False Pass including adoption, brother-sister marriages, and sororate which will be discussed below.

The patrilineal descent principle allows one to identify "families" or lineages as well as their geographic origin. Of the 18 households in False Pass, 15 are headed by Aleuts. Of these 15, nine are headed by individuals from Sanak Island, three by individuals from Morzhovoi, and one by an individual

from Ikatan. The heads of the two remaining households have lived in several villages during their lifetimes so it would be misleading to assign them to any one village. Only two of the heads of household have lived in King Cove or Sand Point for any period of time.

The lineage distribution of the fifteen households headed by Aleuts are shown in Table 4.3.10. As can be seen, there are no lineages which have predominance as is the case in King Cove.

Marriage patterns in King Cove display a high degree of village exogamy. This is true of all but the eldest residents (those over 70) who display village endogamy. Wives (or non-married female mates) in False Pass are drawn from Sand Point (3), King Cove (2), Akutan (1), False Pass (2), Belkofski (1), and Sanak Island (3). Those from families now living in Sand Point may ultimately derive from Sanak Island as well. Other than three sisters married into Nelson Lagoon, several married into King Cove, and one into Sand Point, this study was unable to obtain a complete census of the marital flow of False Pass females. What is abundantly evident is that in contrast to Sand Point and King Cove, False Pass is characterized by village exogamy.

Kinship provides a significant framework for much of the activity that takes place in False Pass but generational membership, and general community membership also play a significant role. Crew members on fishing vessels are first drawn from available members of the nuclear or extended family. Brothers fish with each other. Child care is provided by sisters for their brothers' children and by sisters for each others children. Mutual assistance in housebuilding and repairs is common. While interviewing one fishermen, his son-in-law, a fishing captain himself, was outside working on the household generator which had been broken down for several days. The interview, which had begun in darkness, finished under electric lights.

At present there are two major extended households in False Pass. One of them is headed by a female elder and includes an unmarried daughter, and unmarried son, and a separated son with his two children. The other extended family is headed by a male elder and includes his wife's sister and her daughter, three unmarried sons, an unmarried daughter, and a married daughter and her husband. Although not the modal pattern (witness a third three-generational extended family which dissolved in the summer of 1981 when the son-in-law built a home for his wife and son), it is clearly an alternative which can be both stable, satisfying, and

Table 4.3.10

FALSE PASS HOUSEHOLDS BY LINEAGE

<u>Lineage</u>	<u>Households</u>
1	3
2	2
3	2
4	2
5	2
6	1
7	1
8	1
9	1
<hr/>	<hr/>
9	15

valued. Neolocal residence, however, appears to be the preference for young, newlywed females.

Grandparents have a significant role in the rearing of the grandchildren here as in King Cove.

One of the special kinship features apparent in False Pass is a high degree of adoption. Roughly 30% of the households have adopted children in them which are not always the children of kinsmen. In one case, a young family adopted (informally, it should be stated) a young Eskimo boy with whom their son had become friends while in the PHS hospital in Anchorage. This is certainly an indicator of the degree of caring and generosity found among the residents of False Pass.

Another special feature which is found in False Pass is the incidence of a pattern of two brothers of one family marrying two sisters from another family. Two brothers from Morzhovoi married two sisters from Morzhovoi and later both couples moved to False Pass. In addition, two sisters from False Pass recently have married two brothers in Nelson Lagoon. This pattern is not reported anywhere in the literature to be traditional and so may merely be an artifact of contemporary demographics. One additional piece of evidence concerning the possibility of this pattern going back for some time is that the elderly matriarch from Morzhovoi stated to me that in her youth "Brothers stayed together." It is certainly a powerful social tie for mutual support between households, but at the same time it would also appear to set the intermarried segment off from ties with the rest of the community. Of course this might be mitigated if other family members had married other families in the village or if the two intertwined families formed the entire village.

The final special kinship feature in False Pass of which there is just a hint is that of the sororate. The sororate is a social institution which requires that a widower ordinarily accept or demand (depending on the society in question) an unmarried sister of a deceased wife as a replacement. In one False Pass household, the male head of household's wife is in a coma from which she will likely never recover. Her widowed sister and daughter have taken up residence in the household. What is unclear about this arrangement is whether it is out of a sense of obligation of the (almost) widower to provide for his sister-in-law, whether it is an obligation of the sister-in-law to take her sister's place in the household, or whether it is essentially an informal arrangement arrived at out of mutual benefit. One other example of this pattern which was recounted to me was of a Sanak woman married to a



Sand Point man. After they had several children, she died in an accident and one of her sisters married her widowed husband.

It is clear that in this community where governmental, economic, and other voluntary organizations are minimal or nonexistent, kinship continues to be a crucial mechanism of social integration and interaction.

**Stratification.** Stratification in False Pass is evident in two areas. One of these is in housing. There were two extremely marginal and one marginal dwelling being occupied during the summer of 1981. Among the residents of these households there are no permanently owned permits or vessels. One household head attempted to make a livelihood by leasing a set net permit and an old gillnet vessel from another False Pass resident. At the other end of the continuum are fishermen who have erected new homes in the past three years with their salmon earnings.

The second dimension of stratification is that of access to salmon permits. As is clear from previous discussions, salmon fishing has been very lucrative in the recent past, but not all households hold permits or are headed by individuals capable of fishing. Forty percent of the households do not have an active permit holder in them. Non-fishing males worked as skilled laborers in the cannery for most of their lives and consequently were ineligible for permits. Although they may have out-earned their fisherman neighbors in the 1960s and early 1970s, in the economic boom times for the salmon fishermen of recent years, cannery wages are substantially less than even crewman's earnings, let alone permit holder/captain's earnings.

#### **Political Organization.**

**Local Organizations.** There is no political organization to speak of in False Pass. The major political figure moved to King Cove in 1978 leaving a vacuum of political leadership which to this point in time has gone unfilled. One of the younger sons of the chief from Morzhovoi appears to be trying to fill that void.

The community is unincorporated but it does have a village council and receives some state and federal funding. For FY 81 the village council received \$25,000 in state revenue sharing as well as some BIA self-determination money for the operation of the village council. Meetings of the village council are held only as needed and it is difficult to get people to serve on it.

The school is operated by the Aleutian REAA. There is a local three-person advisory board. The school advisory board is essentially "inactive" (AEIDC 1978).

A political institution which has tremendous potential power is the village corporation. The False Pass Corporation, of which there are 66 members, has selected all of the land on either side of Isanotski Strait from the Bering Sea to Cape Pankoff at the end of Ikatan Bay. There are only two small areas, one the cannery site in False Pass and another small stretch on the Alaska Peninsula side, which were not selected by False Pass Corporation.

Despite this tremendous opportunity, there appears to be very little interest in the village corporation. The President stated that when she called meetings to establish a land use plan, the few who showed up could only ask "What do you want us to do?" She had to assume all the leadership and responsibility.

The local corporation's financial assets, books, and corporate affairs are essentially managed by the Aleut Corporation, the regional corporation. While the research team was there in 1981, confusion arose over the location of village council funds and it was later discovered that they had been mistakenly deposited in the village corporation's account.

In the face of this apparent political disarray, the village is presently faced with an exceedingly difficult situation because none of the land on which homes are built is privately owned. The state says that 1280 acres, including land on which houses are presently found, needs to be put into townsite trusteeship pending the time when False Pass incorporates. The villagers would rather have their own individual lots and leave the remainder in the corporation's hands.

**Regional Organizations.** The village is served by APIA which sends a number of personnel into the community. There appears to be a good working relationship between villagers and APIA. Although few of them are active in the organization, all False Pass fishermen support the PMA.

**Political Process and Response Capacity.** Even though False Pass has an extremely weak political structure at present, the residents are not without the capacity for political response on issues of importance to them. For example, the fishermen are unanimously opposed to the North

Aleutian Shelf Oil Lease Sale and circulated a petition to halt the sale which all the residents of the community signed. However, it was not clear where the petition had been sent and most expressed frustration at not being able to know where to turn to influence the powerful external forces which appear to them to be endangering their lives.

#### 4.3.5 False Pass Sociocultural Organization

Language. Aleut is spoken by eight False Pass residents, seven of whom are female and only two of whom are under forty. There are three other males over forty who understand but do not speak the language. Most of the remainder of the population understand some of the language and will use some Aleut terms such as choomlaw, chudow, and other Aleut terms for local foodstuffs.

There is no strong interest in maintaining the language through a bilingual program in the school. Although some funds were available through the Johnson O'Malley program of the REAA, there was no one locally who either would or could teach it in the schools.

Ethnic Identity. The residents of False Pass clearly identify themselves as Aleut and take pride in their heritage. Because there is very little European admixture compared to King Cove and Sand Point, there has never been a question of Aleut identity for False Pass residents.

Socialization. Formal schooling at False Pass is informal and low key although attendance is generally not a problem. Community residents noted that teacher turnover was extremely high and that quality persons compatible with the village were hard to come by. One year the teacher left in mid-year and was replaced by another. Uncertainty concerning the future of the school and its weak high school program forced one large family to move to King Cove.

Religion. Russian Orthodoxy is the preeminent religious faith in False Pass although there are indications of the continuing existence of a substrate of perhaps traditional Aleut beliefs in spirits. Most homes have a small shrine in the corner of one room that includes Russian Orthodox icons. There is a Russian Orthodox lay reader, now in his 70's, who conducts services in Russian-Aleut on occasion in the Shellikoff's home. Most of the graves in the cemetery exhibit Russian Orthodox crosses with the exception of the Scandinavian fishermen who settled in the village.

Although nominally Orthodox, the younger generation

appears substantially secular in religious attitude. As one fishing captain in his 30's said with a grin, "If they're older we give them a Russian Orthodox burial, but younger ones we just throw in the ground."

Indications of the continuation of beliefs in traditional spirits were provided me on three separate occasions by members of four different lineages. One female in her twenties commented on the dangerousness of whistling indoors because it might attract spirits. On another occasion a woman accused a man in his late 30's of being afraid to stay in his house because he was afraid of ghosts. The final example came when on a visit to Ikatan, a six year old girl asked her aunt where the haunted house in the village was located. Belief in the existence, influence, and power of spirits appears to be widespread and fairly strong among contemporary residents of False Pass.

Values. The Aleuts of False Pass value their families, their heritage, the slow pace of their village, the beauty of their surroundings, their fishing way of life, and their subsistence pursuits. A young white fisherman who had fished by them and lived with them considered them exceptionally generous, friendly, and kind. A few, however, occasionally drink to excess which can cause hard feelings and violence.

They do not value formal education very much, formal political organizations even less, and directives from forces at a distance not at all.

Above all they hope that fishing and living will be as good over the next few years as it has been in the recent past. In their view it is probably the best of all possible worlds.

#### 4.4 NELSON LAGOON

##### 4.4.1 Introduction

Nelson Lagoon is an isolated, prosperous Aleut village of 55-60 persons located on the west side of Port Moller, a major indentation on the north side of the Alaska Peninsula. It is located about 30 air miles west of Port Moller and 80 miles northeast of Cold Bay. The community itself is situated on a narrow, easterly oriented sand spit that separates the lagoon from the Bering Sea. The lagoon itself is shallow and there is no permanent boat harbor.

Nelson Lagoon is located on the extremely flat marshy tundra which is characteristic of the north side of the Alaska Peninsula. The lagoon on which it is situated provides the outlet for the large and productive Hoodoo River which flows northward out of the Alaska Peninsula. The spit on which the village is located is composed of former beach ridges which have now been partially stabilized by vegetative cover. Local soils consist primarily of firm to medium sand while the beaches are composed of dark sands and rounded cobbles.

Erosion from wind and water is a significant force at work. Shore erosion occurs on both the Bering Sea side and the lagoon side of the spit depending on the direction of the wind and stage of the tide. Rate of erosion on the southern face of the spit has been estimated at between 1 and 2 feet per year (AEIDC 1978).

The village along with others in the Aleutian region is located in a zone of active seismic and volcanic activities. Two volcanoes lie 45 miles southwest of the village. The village's location on the north side of the Peninsula insulated it to a degree since earthquakes normally occur on the Pacific side of the Peninsula. The north side location is also protected from tsunamis generated by seismic activity along the Pacific side.

Climate in the area is relatively mild due to the maritime influence, but winter temperatures are generally lower than on the south side of the Alaska Peninsula. At Port Moller a low temperature of  $-17^{\circ}\text{F}$  has been recorded. Precipitation is moderate with an average of 37 inches per year concentrated primarily from October through May. Strong winds due to storms which travel from west-to-east past Nelson Lagoon are common, particularly in the winter. Bering Sea pack ice in severe years can cover the Port Moller-Nelson area with a five to eight inch layer. Even in average winters the Bering Sea shore as well as the lagoon can be heavily affected

by the intrusion of ice. Shallow areas of the lagoon are generally frozen from December to April, and ice thickness in excess of four feet can build up on beaches due to sequential episodes of tidal freezing.

Weather for travel is generally less of a problem in the Nelson Lagoon area than in the communities on the southside of the Alaska Peninsula. Fog occurs about 25% of the time and is more frequent in summer than winter. Surface winds hazardous to flying do occur but are predictable and rare.

Nelson Lagoon was traditionally a fish camp for Aleuts of the Port Moller area. The abundant fish and sea mammal populations of the area apparently supported a substantial population during times in the past. A very large archeological site extending over several acres is located on the east side of Port Moller proper. This site, which is one of the most extensive and largest in Alaska, has been investigated by Japanese archeologists since the early 1960's. Although the information is extremely poor concerning the location, size, and practices at the time of contact with Euroamericans, it appears that the Port Moller area was considerable less densely populated at that time than in previous times. There appear to have been three local groups: one in Port Moller, one at Bear River, and one in Herendeen Bay in the late nineteenth century. The population of Nelson Lagoon may be descended from Aleuts from these areas however, it has been suggested that the population in Herendeen Bay was relocated from the southside of the Peninsula late in the nineteenth century. Scandinavian men, who came to fish the area around the turn of the twentieth century, married Aleut women and the offspring of those who survived the flu epidemic of 1918-1919 make up the present population.

It should be noted in passing that at one point, a group of Eskimos from the Teller area were either located or transported to Port Moller because of the collapse either of the Seward Peninsula caribou herd or the reindeer herds which had been introduced to them. According to one local source, Port Moller Aleuts and the northern Eskimos were not immediately taken with each other and the Eskimos left fairly soon, some apparently settling in the Pilot Point-Ugashik area. These events took place between 1890-1920.

In 1906 a salmon saltery was located at Nelson Lagoon which did not thrive. Then in 1915 a cannery was established on Egg Island near the present village. The cannery operated about two years and never reopened after 1918. Several Scandinavian men built camp dwellings in the area east toward Lagoon Point. These sites were patented, and the chief later

selected a native allotment adjoining the fish camp his Scandinavian father had patented.

During the 1920s, Scandinavian fishermen named Gunderson, Jorgenson, and Nelson drifted seasonally in the lagoon. Several of them married Aleut women and had children. Around the same time a Lithuanian-Eskimo, Charles Franz took up residence across the lagoon at a spot which has come to be known as Franz Point. Most of the Aleut and mixed Aleut population which survived the epidemic located in Port Moller or Herendeen Bay.

The population stayed dispersed with several households gradually remaining in Nelson Lagoon. Charles Franz was instrumental in founding present day Nelson Lagoon when he was able to convince families at Herendeen Bay to move to Nelson Lagoon. The crucial family was the Nelson family which included 13 children and a widowed mother. As a result of this population consolidation, a school was established in 1958 due to Charlie Franz's efforts, and present day Nelson Lagoon has risen from this foundation.

The community gradually grew and new houses were started in the mid 1960's. Another spurt of housing construction has taken place in the last three years. In 1979 four new houses were occupied, in 1980 three new houses were occupied, and in 1981 another new house was occupied.

The village has experienced an impressive expansion in facilities recently derived from state and federal loans and grants. New facilities include bulk fuel tanks in 1978 constructed with a CEDC loan; a community building and PHS clinic in 1978; a central diesel generating system for the village in 1979 from a RDA grant; a permanent landing strip in 1980; a wind demonstration electric generator began in 1976 and finally made operational in 1981; and a new high school building opened in 1980. The village has no satellite TV hookup. Virtually all villagers have telephones which cost an average of \$100 per month in 1981. Transportation at present is by three-wheel vehicles and pickup trucks along the three miles of road around the village and to the airport. Trucks are either barged to Port Moller with Peter Pan's spring supplies or are charter airlifted in from Anchorage.

The major present problem confronting the village is the lack of a local fresh water supply. Wells in the spit produce brackish water suitable only for toilets and washing; drinking water has to be brought in from a lake 16 miles down the beach.

The residents of Nelson Lagoon have carved out a prosperous niche for themselves and are in the process of creating a comfortable, viable and hopefully sustainable rural community.

#### 4.4.2 Nelson Lagoon Demography

Population Trends: Past, Present, Projected. Nelson Lagoon is a relatively new village having only been in existence for about 15 years. Table 4.4.1 summarizes the paucity of demographic data available for the communities in the Port Moller area. In general it appears that there was a sizable amount of outmigration from the area during the 1940's and 1950's. However, the consolidation of the remnant population at Nelson Lagoon appears to have taken and a solid, sustainable village has resulted which has shown substantial (37%) growth in the last decade.

Projections for the future are extremely difficult for populations as small as Nelson Lagoon's. No new marriages and families have been formed (or houses constructed) for a number of years and there is a significant cohort of women in their 20's (see Table 4.4.2) who are unmarried. There is no additional economic activity on the immediate horizon for Nelson Lagooners so that younger people will have to be absorbed into the salmon fishery if they are going to settle in Nelson Lagoon. Even if OCS development led to Port Moller being a staging area, it is unlikely that many Nelson Lagooners would be employed. The community does not appear to be on the verge of decline but rapid population growth seems unlikely as well.

Population Structure: Age, Sex, Ethnicity, and Household Size. The population of Nelson Lagoon is a young one, with only 12.7% of the population being 40 years or older. The largest cohort is that between 11-19 at 29.1% which indicates substantial growth from 1960-1970; however, the 0-10 cohort represents only 18.2% of the population and indicates a substantial decline in the growth rate from 1970-1980.

The sex structure of Nelson Lagoon is unique for village Alaska in that there are presently more women in the village than men. There are five households in the community headed by females, two by matriarchs of important local lineages (see Kinship discussion), two by divorced women, and one by a never-married woman in her early 30s. The latter household also includes two younger unmarried sisters in their 20s.

The community is identified as Aleut although all families except one are derived from the union of Scandinavian



Table 4.4.1

HISTORICAL TRENDS IN POPULATION:  
NELSON LAGOON, HERENDEEN BAY, AND PORT MOLLER<sup>1</sup>

	1940	1950	1960	1970	1980
Nelson Lagoon				43	59
Herendeen Bay	13				
Port Moller	45	33			1

<sup>1</sup> Although Herendeen Bay and Port Moller were occupied as permanent villages and Nelson Lagoon as a seasonal fish camp prior to 1940, census data is unavailable for these earlier periods.

Source: U.S. Census and Alaska Department of Labor

Table 4.4.2

## NELSON LAGOON AGE AND SEX STRUCTURE, 1981

Age	Number	Male	Female	Age Cohort % of Total Population
70+	0	0	0	
60 - 69	3	1	2	5.5
50 - 59	2	1	1	3.6
40 - 49	2	1	1	3.6
30 - 39	15	7	8	27.3
20 - 29	7	2	7	12.7
11 - 19	16	10	6	29.1
6 - 10	5	2	3	
0 - 5	5	2	3	18.2
Totals	55	26 (47.3%)	29 (52.7%)	100

or Euroamerican men and Aleut women. The other family is of Russian-Aleut ancestry. Other than the school teachers, there are only two whites living in the village, a woman (who has married a local man) and her son by a previous marriage.

It should be mentioned that Nelson Lagoon is also seasonally used as a fish camp by several additional families who reside elsewhere during the remainder of the year. Three families from Sand Point with distant kinship linkages to families in Nelson Lagoon, a family from King Cove (the wife is from Nelson Lagoon originally), and one pair of white brothers from the lower-48 use Nelson Lagoon as their base of operations for fishing in the summer. These families, plus the non-local help they and Nelson Lagoon fishermen hire, swell the community to between 80 and 90 during the fishing season.

Household size in Nelson Lagoon is the smallest in the study as the data presented in Table 4.4.3 shows. Families tend to be small with only one household having five children. The construction of new houses in the last years has had the result of breaking up several extended family households and also has left unoccupied a number of older dwellings. The distribution of households is organized spatially according to kinship with houses of each of the three primary lineages located in proximity to others of their lineage.

#### 4.4.3 Nelson Lagoon Socioeconomic Organization

##### Fisheries: Commercial Harvesting

General Overview: Strategies and Species. Salmon fishing provides the basis for the economy of Nelson Lagoon. Unlike King Cove, False Pass, and Sand Point, there is no local processing in Nelson Lagoon, the nearest facility being the Peter Pan cold storage at Port Moller, thirty miles away. Salmon have been processed (first salted and later canned and frozen) at various locations in Port Moller since the first decade of the twentieth century. A saltery was started about 3/4 of a mile from present day Nelson Lagoon in 1906 but folded after operating less than five years. With the exceptions of the addition of roe processing and freezing capacity, the salmon processing operation at Port Moller has not changed a great deal since the 1930's. One major change is the level of income which Nelson Lagoon fishermen are now able to earn as opposed to ten years ago.

Salmon fishermen of Nelson Lagoon hold Alaska Peninsula (Area M) limited entry permits for purse seine (only two), drift gillnet, and set gillnet fishing. There are basically

three strategies of salmon fishing practiced by Nelson Lagoon fishermen. These strategies are dependent on the permits an individual has access to as well as the size and timing of different runs of salmon. The predominant strategy which is practiced by most households as households is the combination of drift gillnetting and set gillnetting. Seven households (of 16 in the community) follow this particular pattern. Wives and children above the age of eight are actively involved in these fisheries in a variety of ways. A number of wives and unmarried women "hang" their own nets and several are capable of operating their own set net sites. Several wives accompany their husbands drift gillnetting in South Unimak and in the Port Moller area. Nearly every household pursuing this strategy spends a significant portion of the season fishing together as a unit and it is usually during the late August silver set gillnetting season that this is most possible.

A second strategy pursued by two fishermen heads of households is the combination of purse seining and drift gillnetting. They usually leave to other members of the household any set gillnetting that might be done. For at least one of these households, the wife is also involved in the purse seine effort in addition to the drift and set gillnetting. Three of the fishermen heads of household categorized as displaying the dominant pattern also participate as crewmen in the purse seine efforts of these two individuals.

A third strategy is that of almost exclusive drift gillnetting and the fourth is almost exclusive set gillnetting. Strategy three is predominantly that of two male heads of household while strategy four is that of two female heads of household who are assisted either by hired crewmen from outside the village or teenage children.

Drift gillnetting is generally carried out in 32 foot (or larger) fiberglass vessels. The two vessels which purse seine are longer but the effort is a hand purse seine effort similar to that found elsewhere on the Peninsula as opposed to a limit seine effort. Set gillnetting is accomplished with aluminum skiffs and in the last two seasons six jet boats have been successfully introduced to this fishery.

The species of greatest importance to the Nelson Lagoon fishermen are red salmon, primarily those of the Hoodoo River which flows into Nelson Lagoon, and secondarily those of the Bear and Sandy Rivers which are the primary contributors to the Port Moller fishery. Of next greatest importance, at

Table 4.3.3

NELSON LAGOON HOUSEHOLD SIZE, 1981

<u>Household Size</u>	<u>Number of Households</u>	<u>Total Persons</u>
1	2	2
2	3	6
3	3	9
4	5	20
5	1	5
6	1	6
7	1	7
	<hr/>	<hr/>
Totals	16	55

Average Household Size: 3.4

least in the way in which the fishermen speak of them, are the silver salmon of the Hoodoo which generally appear around August 20 and continue running until mid-September. Third in importance are the king salmon, which Nelson Lagooners are blessed with from the Hoodoo, albeit in relatively limited numbers. Dog salmon generally appear at Nelson Lagoon and in the Hoodoo during late July and early August, after reds and before silvers. Only about a third of the village fished dogs during 1981, the remainder took a break before getting ready for silvers. Dogs are considered troublesome because they deteriorate rapidly; they are too large relative to the reds for which the nets are used at this time were designed; they tangle and snarl the nets causing additional labor; and spawned out, dying specimens drift back downstream into the channel fouling the set nets. In addition the price for them is low and they are regarded as ugly. Pink salmon are rare and of little significance to Nelson Lagoon fishermen.

There are no other fish or shellfish species of commercial significance to Nelson Lagoon fishermen at present. There is a significant population of king crab in Port Moller which are tapped by the local population for subsistence purposes and which at least one local fisherman has made occasional, sporadic efforts to fish commercially over the years. The problem is that there is no local processing available, the stock in Port Moller that is protected from the Bering Sea is not large, and Nelson Lagoon boats are not equipped to fish in the Bering Sea for crab, let alone run to Unalaska or King Cove to deliver.

There are local halibut in Port Moller which are fished for subsistence. One fisherman who died of a heart attack in 1979 had fished his boat for halibut on the southside several years ago, but none of the contemporary fishermen claimed to have fished for halibut.

One final resource that may soon see exploitation is herring stocks. Herring were at one time in sufficient abundance to support a reduction plant in Herendeen Bay for about a decade from the mid-1920's to early 1930's. The overexploitation of the stock apparently caused its collapse and the plant shut down. As a result of the development of the sac roe fishery in western Bristol Bay, the Port Moller herring stocks which have rebounded to significant levels of abundance in the last 40 years are piquing the interest of fishermen. The 1979 Fish and Game annual report for the Alaska Peninsula Management Area noted that Kodiak fishermen who passed by Port Moller on their way to the Togiak sac roe fishery expressed an interest in prospecting on the local herring stocks (ADF&G 1979a). This interest has not gone

unnoticed by Nelson Lagoon fishermen. One local fishermen indicated he had purchased a vessel, nets, and other equipment necessary to participate in the fishery if it should ever materialize. Another fisherman, showing the initiative and creativeness characteristic of Nelson Lagooners, went out this past spring and resurrected a herring skiff which had apparently fallen off a passing barge on its way to Bristol Bay. The skiff was half buried in sand but it was eventually extricated, refurbished, and was in operation during the summer of 1981 as a transport vehicle. He too said he would be ready if a herring fishery were to develop.

Although the offshore areas near Nelson Lagoon and Port Moller have substantial yellowfin sole and cod stocks which were fished by a Russian-American joint venture during the summer and fall of 1980 (Fisher 1980), Nelson Lagoon fishermen have neither the experience, skills, or inclination at present to involve themselves in this nor any other bottomfishing.

Limited Entry Permits. The State of Alaska's enactment of a limited entry program in 1973 accompanied by stringent regulations and enforcement by the Department of Fish and Game to ensure adequate escapements to the Hoodoo, warm winters and the 200-mile limit, have all combined for a highly advantageous result for Nelson Lagoon fishermen.

Limited Entry permits for salmon fishing in Alaska Peninsula district are for purse seining, drift gillnetting, and set gillnetting. Permanent permits were first awarded in 1975 when the majority of Nelson Lagoon fishermen received them. Since that time several additional permits have been obtained by local residents through the appeal process.

As of early 1980, Nelson Lagoon residents held the following salmon permit holdings for the Alaska Peninsula Management area: two purse seine, 15 drift gillnet, and 18 set gillnet permits, or 35 permits held by 23 different individuals. As can be seen in Table 4.4.4, gillnetting is clearly the preeminent gear type in Nelson Lagoon. In part due to the limited amount of purse seining done by local fishermen, the concentration of permits in Nelson Lagoon at 1.52 permits per holder is significantly less than in King Cove and False Pass. The primacy of the combination of drift gillnetting and set gillnetting is readily apparent from Table 4.4.4. In addition, it is noteworthy that seven households have three permits in them through combining the holdings of husbands and wives. Another noteworthy feature of Nelson Lagoon's permit distribution is the significant number of female permit holders (35%) which makes it very much different from the other communities involved in the Alaska Peninsula

Table 4.4.4

NELSON LAGOON PATTERNS OF LIMITED ENTRY PERMIT HOLDINGS  
1980

Permit Holding Pattern	Male	Female	Number of Cases	Total Permits
Purse seine, drift gillnet, set gillnet	1	0	1	3
Purse seine, drift gillnet	1	0	1	2
Purse seine, set gillnet	0	0	0	0
Drift gillnet, set gillnet	9	0	9	18
Purse seine	0	0	0	0
Drift gillnet	3	0	3	3
Set gillnet	1	8	9	9
Total	15	8	23	35

Average permits per holder: 1.59

fisheries (False Pass, King Cove, Sand Point), and much more similar to the villages in the Bristol Bay region (Port Heiden, Pilot Point, and Ugashik).

Langdon (1980) reported that on a statewide basis, rural permit holders had "lost" permits, i.e. transferred them to nonlocal, nonrural fishermen, during the period from 1975-1979. It appears that Nelson Lagoon fishermen have "lost" from three to five permits; however, some of them have been transferred to nonlocal individuals who have had extensive ties with the community over the past 15-20 years. The chief as well as other fishermen indicated some worry over this matter; the chief said that he constantly reminded village residents of the importance and value of their permits because they were constantly being approached to sell them by fishermen and others when they were in Port Moller, Cold Bay, or Anchorage.

Areas and Times Fished. Nelson Lagoon fishermen drift gillnet primarily in two areas, Nelson Lagoon proper and in the area from Port Moller to Three Hills. Approximately 25% of the drift gillnet fleet has gone down to South Unimak in the past two years; however, in the early and mid 1970's this was a much more common phenomenon. A number of them have not even gone to Bear River in the past two years since fishing in the Hoodoo River has been so good. Occasionally, fishermen may go as far as Ilnik to fish but this is rare. Even more rare is use of the area between Moffett Lagoon and Nelson Lagoon. One reason for this is the lack of sizable runs in this area. Only one fisherman indicated any use of the area southwest of Frank's Point; he normally fished near Steelhead Creek at some time during the summer. Another fisherman said that the reason more people don't try that area is because of the concentration of gray whales there during June when it might be worthwhile. The area between Nelson Lagoon Point and Frank's Point, locally known as Caribou Flats, is open until June 20th for king fishing and a few boats will try it then. However, after that time it is closed.

Beach seining by the two Nelson Lagoon units is done almost exclusively in Herendeen Bay for local dog salmon. This fishery was only reopened in 1979 after a number of years of closure. When asked if he ever went to Izembeck Lagoon or elsewhere to purse seine, the older purse seine fisherman said no, he never had.

Set gillnetting is done from the light at the point outside of Nelson Lagoon up the channel into the Lagoon and then on into the Hoodoo River proper. There are also several set gillnet sites in the vicinity of Port Moller that are used by Nelson Lagooners originally from that area as well as the one Aleut family that continues to reside there.



Drift gillnetting begins around June first in two areas, South Unimak if the fishermen have decided to go there or in the Caribou Flats if the king forecast was good. Some fishermen may go down to South Unimak a little later. If they start on Caribou Flats then generally by June 10th kings will be in the channel and a few reds will have begun to show so effort will shift to the Lagoon proper. Drift gillnetters who have remained to fish will go to Bear River for about a week around June 20th depending on how well the Nelson Lagoon run is coming in. In the past all but one drift gillnetter stated that they had typically gone down to South Unimak to fish until the end of June and then returned to fish Bear River until the end of July finishing up in the Lagoon and river on silvers from late August to mid-September. It is apparently the abundance of reds locally, especially in the Hoodoo but also in the Bear River, that keeps more than half of them from making the trek. The cannery Superintendent at Port Moller reported that Bear River fish were coming in earlier so that it had become a gambling game as to how long to stay at South Unimak to fish before moving up to Port Moller. He said that this year Sandy and Bear River fish had been early and most had already passed by June 20th when the fleet began arriving. The first two weeks in July are normally the peak of the Hoodoo River red run so that the entire Nelson Lagoon fleet is drifting in the channel or set netting or both at that time. Late July and early August may see Fish and Game close Nelson Lagoon and the Hoodoo River for a period during which time drift gillnet fishermen will often go to Bear River and maybe up to Ilnik. Then when silvers begin running to Nelson Lagoon, drift efforts concentrate in the channel and then shift to the river in September when the silvers move up stream.

Set gillnetting is done for reds from June 20th until the end of July. If the river is left open sporadic effort on dogs will take place, then set gillnetting efforts will intensify again when the silvers begin running.

Beach seining in Herendeen Bay occurs when the Fish and Game Department opens the area which is typically in the latter half of July (15th-25th).

**Fleet Characteristics.** The Nelson Lagoon fleet is essentially composed of 32 foot fiberglass vessels designed for the Bristol Bay drift gillnet fishery, and a smaller group of jet boats in the 16-24 foot range for the set gillnet fishery. There are two larger vessels which were custom designed to combine drift gillnetting and beach seining operations. There are also a number of 12-16 foot aluminum, wooden, and fiberglass skiffs for use in set and gillnet fishing in the

river itself. The jet boats mentioned earlier have recently been introduced into Nelson Lagoon and have caught on very rapidly. These vessels which first made their appearance about three years ago, are extremely fast, capable of travelling at speeds up to 30 knots, and can be used more effectively in the Hoodoo River and the shallow waters of Nelson Lagoon than standard outboard river skiffs. There are presently six of these which range in length from 22 to 28 feet, the most frequent length being 24 feet. They range in present value from \$10,000 to \$28,000 and the largest appears capable of carrying over a thousand fish.

Table 4.4.5 summarizes the characteristics of the Nelson Lagoon drift gillnet fleet. As can be seen, roughly 40% of the fleet is three years old or less: the two oldest vessels, wooden Bryants purchased from the Peter Pan Port Moller plant, were both up on land during the summer of 1981; their owners are now using new boats. Although there has been considerable upgrading of vessels in recent years, this has largely been accomplished without the assistance of the state's vessel loan program. Data through 1980 indicate that only one Nelson Lagoon fisherman had made use of the program with a loan worth \$25,000. Vessel upgrading has been primarily financed through private sources.

The most interesting aspect of vessel upgrading in Nelson Lagoon during the past two years is the addition of the jet boats to the vessel inventory of each household to allow them to more effectively exploit the river fishery and maximize potential earnings from set gillnet permits. This intensification is made possible by runs of red salmon in the Hoodoo in excess of escapement needs which results in a fishery being allowed in the river by Fish and Game biologists in areas and for periods not previously open. These vessels also allow Nelson Lagoon fishermen to easily switch over to set gillnetting in the Hoodoo when drifting in the channel or at Bear River slacks off. It may well also be a result of the increasing competition in the Port Moller area for fishing locations which has made the river a more attractive location for the time being. One fisherman commented that another Nelson Lagoon fisherman who this past summer had been fishing the Hoodoo River more intensively than ever before had been finding it increasingly difficult to fish his customary spot near the mouth of the Bear River due to the greater number of boats in the area now.

The fishing gear of Nelson Lagoon fishermen displays their much greater orientation to drift and set gillnet fishing, especially in the Hoodoo River, than one finds anywhere else on the Peninsula. Fishermen mentioned having

Table 4.4.5

## NELSON LAGOON FISHING VESSEL AGE, LENGTH, AND TOTAL VALUE, 1981

Length (ft.)	81	80	79	78	77	76	Pre- 76	Total Vessels	Total Value
31 - 33		2	3		1	5	4	15	\$ 925,000
34 - 36			1				1	2	220,000
37 - 39		1						1	240,000
Totals	0	3	4	0	1	5	5	18	\$1,285,000

Average Age: 8.4 Years  
 Median Age: 5.1 Years  
 Average Value: \$71,390

two sets of gear for nearly every fishery they pursue. Gear commonly mentioned included the following different kinds of gill nets alone: red gear for the southside (Unimak) (200 fathoms), Bear River red gear (400 fathoms), Lagoon red gear (600 fathoms), Lagoon silver gear (400 fathoms), and Lagoon king gear (200 fathoms). It was estimated that this package of nets was worth \$18-20,000. Of this basic repertoire, only about half of the fishermen have the entire set with southside gear being foregone by a few and Lagoon king gear by others due to the overlapping of these two fisheries. It should be noted that set net gear would only consist of the latter three net types being conducted totally in the Lagoon and river. Thus, households that have drift and set gillnet permits (or more) to fish must have the appropriate set of nets for each permit being fished. Those fishermen who also pursue purse seining must have the gear necessary for that fishery. The beach seines used are 200-250 fathoms in length.

To give a general idea of quantities of gear and investment in fishing characteristic of Nelson Lagoon fishermen, the inventories of two fishermen are presented in Table 4.4.6.

These two "operations" are fairly average Nelson Lagoon fishing units. In case #1, three permits (one drift and two set) are fished by the household, and in case #2, two permits (one drift and one set) are fished.

The term "operation" is used by Nelson Lagooners to refer to a number of fishing units including permits under the coordination of a given fisherman, usually the head of the household. In customary usage this may show up in remarks such as, "My operation isn't as big as [another fisherman's]", or "His operation is alot bigger this year." The coordination of the operation including the purchase of the gear, the setting of the stakes for set gillnetting, the coordination of the vessels preparing the gear, maintaining the gear, recruiting the nonlocal labor needed, and the payment of shares all fall on the male head of household. Wives are usually primarily responsible for keeping track of the cash flow, maintaining communication with outside sources, and helping in the fishing effort. When a number of permits are being fished, the coordination of tasks can become extremely complex, especially if one is attempting to use nonlocals with little experience in the fishery.

In sum, the Nelson Lagoon fleet is composed primarily of a drift gillnet complement of vessels and gear and a set gillnet complement of vessels and gear. The drift gillnet sector was upgraded primarily in the period from 1976-1979 and

Table 4.4.6

## EXAMPLES OF NELSON LAGOON FISHERMEN'S VESSEL AND GEAR HOLDINGS

## Fisherman #1

## Vessels

32-foot drift vessel	\$ 75,000
3 fiberglass skiffs (15'-17')	8,500
2 wooden skiffs (15')	4,000
1 aluminum skiff (24')	5,000

## Engines

5 35 hp outboards	6,250
1 jet drive unit	5,000

## Nets

Lagoon king, 350 fathoms	3,750	
Lagoon red, 1,000 fathoms	12,500	
Lagoon silver, 400 fathoms	5,000	Total, \$125,000

## Fisherman #2

## Vessels

32-foot drift vessel	\$ 50,000
24-foot jet boat	7,000
2 aluminum skiffs (16')	8,000
1 fiberglass skiff (22')	5,000

## Engines

4 35 hp outboards	5,000
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## Nets

Lagoon king, 400 fathoms	4,000	
Lagoon red, 400 fathoms	5,000	
Bear River red, 200 fathoms	2,500	
Lagoon silver, 400 fathoms	5,000	Total, \$ 91,500

the set gillnet sector has been upgraded during the past two years, particularly through the introduction of jet boats. Virtually the entire upgrading effort has been sustained through the earnings from the fishery and through private financing.

**Vessel Economics.** The Alaska Peninsula salmon fisheries have been exceptionally profitable over the last four or five years, as was apparent from the discussion of the characteristics of the fleet. Moreover, it would appear that during the stressful periods from 1971-1975 in other salmon fisheries around Alaska, the Nelson Lagoon fishermen were noticeably better off. None of them reported having to leave the village during that period for employment.

Nelson Lagoon drift and set gillnet fishermen reported receiving similar share rates which ranged from 10% for the unexperienced to 20% for an experienced drift crewman. Third crewmen are relatively rare in both fisheries.

The one purse seine unit from which share information was obtained displays an unusual arrangement. The organization is a joint one in that all participants contribute some form of equipment to the effort. The owner of the seine receives a 10% cut for the seine off the top and then the remainder is divided among the four at 22.5% each after fishing expenses for the operation have been deducted. This is an indication of highly egalitarian relationships between the men.

**Crew Composition.** Drift gillnetting is usually done by two individuals if it is a captain with a hired crewman and may be done by a family unit including husband, wife, and one or two children depending on, among other things, the number and age of the children, the size of the boat, and the wishes of the wife.

Set gillnet units are also conceived of as two person endeavors. However, when two set net sites are fished as part of a household operation there may be considerable overlapping of effort. One household observed which fished two permits distributed their effort across four different locations and picked the four nets easily in sequence as a team. Another set net operation of a family of four was run off their drift gillnet vessel while in a third, the hired hand picked the single net daily for the female head of household who held the permit.

For the beach seine efforts, a captain plus three crewmen is the normal unit. In both cases, all crewmen are either

nuclear family members or residents of the village.

Crewmen are typically members of the nuclear family (wives and children); in addition, nearly every operation has one or two young nonlocals who are usually children (young adults or teenagers) of friends or relatives. One operator reported that nonlocals would be willing to work for as low as a 5% share they were so desperate for a job, whereas you could not get locals to work for less than 15%. Nonlocal help may be let go at anytime during the season depending on the fishing conditions.

Most local women are capable of conducting their own set net operation with the one exception of needing assistance in setting the stakes in the channel to which the set net is tied. They can handle the nets, repair them, start and operate outboard engines (some can make minor repairs), and pick their own nets. These skills were apparently developed as a result of the division of labor which used to occur whereby the men went to South Unimak and Bear River to fish all season and the women stayed home to set net in the lagoon and river.

**Landings and Earnings.** Salmon landings and earnings increased significantly and steadily for Nelson Lagoon fishermen over the period 1975 to 1980. Table 4.4.7 displays the aggregate annual salmon catch taken by Nelson Lagoon fishermen from 1975 to 1979 revealing a near-doubling aggregate community earnings in 1978 and again in 1979. The community aggregate average annual salmon catch for the period as 1,449,000 pounds worth \$1,080,000. Based on an average of 28.1 gear operators per year, these figures translate into an average catch of 66,468 pounds worth \$49,541 per operator.

Although less dramatic than in other Alaska Peninsula communities discussed in this report, the degree of change which occurred in Nelson Lagoon's salmon fishery over this period is still substantial as revealed by comparing performance in 1975 with that in 1979. In 1975, total salmon landings were 686,000 pounds worth \$312,000 for a per gear operator average of 32,667 pounds worth \$14,857. Comparative figures for total landings in 1979 were 2,513,000 pounds for a per gear operator average of 100,520 pounds, a three-fold increase over the 1975 level. Total earnings in 1979 mounted to \$2,791,000 for a per gear operator average of \$111,640, a seven-and-a-half times 1975 earnings. Increase in gear operators in Nelson Lagoon was comparatively much smaller than other Peninsula communities from 1975 to 1979, only growing 19% from 21 in 1975 to 25 in 1979.

Aggregate and average catch and earnings figures do not

Table 4.4.7

## NELSON LAGOON TOTAL SALMON LANDINGS AND EARNINGS,

1975 - 1979

	1975	1976	1977	1978	1979	Average
Number of Gear Operators	20	19	19	20	25	20.6
Total Landings (1,000 pounds)	686	1235	1104	1709	2513	1449
Total Earnings (\$1,000)	312	435	609	1253	2791	1080



reveal the extraordinary range in performance exhibited by Nelson Lagoon fishermen. In 1975, the lowest total catch by an individual gear operator was 1,800 pounds and the highest was 83,000 pounds for a range of 46. In 1979 comparable figures were 11,400 pounds and 401,000 pounds for a range of 35. The persistence of this high range of variation in performance is in part due to the fact that, unlike other Peninsula communities, there are a number of female permit holders who actually fish their set gillnet sites.

Significant variability in comparative gear type strategy performance is apparent in Nelson Lagoon as is a shift in comparative positions of gear type strategy earnings over the 1975 to 1979 period. Table 4.4.8 displays comparative earnings by gear type from 1975 to 1979. The most striking disparities between strategies revealed by this table are the substantial income differentials accruing to the holders of purse seine permits (Types I, II) as well as the clear inferiority of the set gillnet only (Type VII) strategy. The important shift which is apparent is the elevation of set gillnetting relative to drift gillnetting which occurred in 1979. This is apparent in the tremendous income gains realized by Type IV and VII fishermen (275% and 238%, respectively) while Type VI fishermen (drift gillnet only) realized a very slight (1%) increase. These changes reflect the tremendous strength of the Hoodoo River runs and Nelson Lagooners' intensification of set gillnet efforts in the rivers.

**Special Characteristics.** There are several unique aspects to the Nelson Lagoon fishery which need to be identified. These include set net sites, informal management practices, and formal regulatory management.

Set net fishing produces a tremendous portion of Nelson Lagoon's fishing earnings compared to other Alaska Peninsula communities. As a result it is not surprising to find a fairly degree of elaboration in this area. Nelson Lagooners recognize internally rights of usage to certain locations which have been established over the years by individuals or families. A few of the sites have been "registered" with the state to ensure continued use of them, but the majority are simply informally recognized and honored. The degree of mutual respect for this informal recognition is intriguingly highlighted by the fact that one fisherman allowed another to use his site during this past season and charged 28% of the gross for the use of the site. The village's protection of sites was also underscored when a nonlocal attempted to come in and file a registration claim on a site customarily used by one family that was not registered. The village unanimously opposed this intrusion and made life so difficult for the

Table 4.4.8

## NELSON LAGOON FISHERMEN'S AVERAGE SALMON LANDINGS AND GROSS EARNINGS BY GEAR TYPE, 1975 - 1979

Gear Type <sup>1</sup>	1975	1976	1977	1978	1979	Average
Type I: PS, DG, SG						
Gear Operators	(0)	(2)	(1)	(1)	(1)	(1)
Average Landings (lbs.)		136,355	127,330	216,144	239,929	170,223
Average Earnings		\$ 47,504	\$ 67,342	\$156,254	\$259,513	\$132,654
Type IV: DG, SG						
Gear Operators	(13)	(8)	(9)	(11)	(7)	(9.6)
Average Landings (lbs.)	37,415	54,957	58,496	85,974	167,271	80,822
Average Earnings	\$ 16,698	\$ 19,749	\$ 33,164	\$ 63,924	\$175,948	\$ 61,951
Type VI: DG						
Gear Operators	(5)	(5)	(4)	(2)	(7)	(4.6)
Average Landings (lbs.)	33,374	85,502	79,067	126,262	83,214	79,067
Average Earnings	\$ 15,249	\$ 29,431	\$ 39,193	\$ 91,582	\$ 93,782	\$ 53,847
Type VII: SG						
Gear Operators	(3)	(4)	*9)	(5)	(8)	(4.8)
Average Landings (lbs.)	11,803	23,632	19,648	24,878	39,619	23,916
Average Earnings	\$ 5,329	\$ 8,656	\$ 11,736	\$ 18,704	\$ 44,434	\$ 17,772

<sup>1</sup> PS - Purse Seine  
 DG - Drift Gillnet  
 SG - Set Gillnet

nonlocal that he sold out even though he did succeed in getting the site.

This preceding point leads easily into a discussion of informal management which Nelson Lagooners have established over the years because it is one of the most salient examples. Another mechanism of informal management is the way in which drift gillnetting in the lagoon east of the village is accomplished. There is only a 3 1/2 mile stretch suitable for drift gillnetting from the lighthouse past the old cannery to just above the village. The beach along the stretch is allocated to different individuals for set netting. More importantly, Nelson Lagooners have established the principle that one can only drift in the area of the channel off of one's set net site. This area is the best spot for drifting because only here is it deep enough to drift and the fish are concentrated. This principle effectively excludes Nelson Lagooners who do not have set net sites in the area but it also excludes all nonlocals who do not have set net sites as well! Further, the same principle holds as well further up the channel and in the river itself where it is shallow and where shorter, shallower nets have to be used if one wishes to drift. One of the Nelson Lagoon fishermen commented to me that the net result of this allocation of set net sites and the principle of drifting only off the set net site was to insure that everybody had a roughly equal shot at the fish. The reason for this is that in the channel and river the set net sites are more productive here while drift gillnetting is more productive in the lagoon even though drifts can be made only at slack low water due to the strength of the tides.

The final special point that needs to be made about Nelson Lagoon is the village's effectiveness in using the state regulatory framework to protect their local fishery and in working with Fish and Game personnel. The Nelson Lagooners have established the longest minimum distance between set net sites in the state--1800 feet. In Bristol Bay the minimum distance is 300 feet. This has the effect of keeping additional sites from proliferating and insuring that each site has a fair shot at some of the fish. Another regulation which was established in the early 1970s when the Hoodoo River runs were extremely weak was the closure of the Caribou Flats section immediately outside Nelson Lagoon to drift gillnetting after June 20th. The purpose of that regulation was to insure adequate escapement. The upshot was to allow only fishing in the river and lagoon. Now that the Hoodoo reds have apparently recovered, the effect of the Caribou Flats closure in conjunction with the 1800-foot rule and informal management is to insure that virtually all Hoodoo River reds are caught by Nelson Lagoon fishermen.

## Developmental Trends

**Vessels.** Three individuals indicated that they were anticipating purchasing new drift vessels this winter and one of them was one of the purse seine permit holders. Two fishermen have recently jointly purchased a vessel for sac roe herring fishing and packing. The trend is one of continuing upgrading to more comfortable, seaworthy boats but no shift to a larger class of vessel capable of doing different things. The trend to jet boats in the river is also likely to continue.

**Areas.** It would appear that Nelson Lagooners have contracted the areas in which they fish, especially in the last two years. Whereas considerably more effort used to be expended in the South Unimak and Bear River fisheries, it is now the case that effort is being concentrated on the lagoon and river fisheries. This may, however, only be a short-term adaptation that is largely a function of the availability of fish locally. Nevertheless, the dramatically increasing effort in South Unimak and Port Moller areas may combine to keep Nelson Lagoon fishermen closer to home in the future.

It will be interesting to see what the Nelson Lagoon purse seiners response is to the invasion of their traditionally private Herendeen Bay dog salmon fishery. Indications are that they intend to continue to participate and are upgrading their gear to compete. The Port Moller cannery Superintendent suggested that the area could easily accomodate 12 purse seiners; if it can, all of that additional effort is likely to come from southside vessels and not from Nelson Lagoon.

Other things are happening in that area as well. The Port Moller cannery Superintendent reported that approximatley six gillnetters went to Herendeen Bay in 1981 to fish for dogs. This was done during a bad westerly storm when the boats could not get out of Moller to fish in the Bering Sea. He said it was possible this trend would continue if more effort is concentrated in the Port Moller area.

**Gear.** There are few observable trends here other than the accumulation of significant amounts of additional nets for emergency purposes, and the preadaptive accumulation of herring gear by at least two fishermen.

**Species.** Other than the interest expressed by three fishermen in becoming involved in a herring fishery if one should develop in Port Moller, there is no indication that Nelson Lagoon fishermen have any interest in crab, halibut, or bottomfish.

Permits. It was previously noted that the sale of several permits to outsiders had been the cause of some concern within the community, but the chief feels that at present there is no danger of further attrition. He has posted a current listing of permit values in the community center to insure that everyone is aware of the going price of permits. Several fishermen commented that they would be unwilling to part with their permits for any price.

On the other side of the ledger, no permits appear to be coming into the village either. As is apparent from Table 4.4.2, there is a large cohort of subadult males rapidly approaching maturity and to incorporate them as permit holders would require obtaining permits from outside. In addition, structural modifications of the regulatory and informal management practices of Nelson Lagooners may be required if these young males are going to be able to earn a livelihood from salmon fishing in Nelson Lagoon.

Sum. The response of Nelson Lagooners to recent salmon abundance has been a contraction of effort from areas where they have traditionally fished, namely South Unimak and Bear River. At the same time they have intensified their efforts in the lagoon and Hoodoo River to take advantage of the increased runs. This has been done primarily by the use of jet boats in the river which increases the number of sites that can be fished and by concentrating male labor on the river fishery as opposed to the drift gillnet fishery where it has traditionally been focussed. With the preadaptive exception of interest in a local sac roe herring fishery, there is no evidence that Nelson Lagoon fishermen have any interest in diversifying into other species or expanding into other areas.

#### Fisheries: Commercial Processing

History. As noted earlier, salmon processing has been carried out in the Port Moller-Nelson Lagoon area since the turn of the century. A small cannery, the remains of which can be seen to this day, was established on a small island about three-quarters of a mile from present day Nelson Lagoon in 1915. The cannery operated off and on for several years before it was finally closed around 1918. In the meantime, three other canneries appeared in Port Moller, two in Herendeen Bay and one at Port Moller proper. At one time in the 1920's there were three separate canneries at Herendeen Bay (Fidalgo Island Packing Company, Phoenix Packing Company, and Everett Packing Company) and one (Pacific American Packing Company) at Port Moller. This was too much capacity for the available fish so that two of the firms went out of business

by 1925 leaving Everett in Herendeen Bay and Pacific American at Port Moller. The Pacific American Fisheries plant emerged from the competitive struggles in the 1930's and continued to operate as a cannery in the area until 1964 when it shut down due to the shortage of fish. The fleet was also reduced in size at that time from 65 to 20 vessels. The cannery was used as a fleet base only and fish were packed at False Pass and King Cove. After several years, the fleet was allowed to gradually begin building up again. In 1969 Peter Pan (which had bought out Pacific American in 1965) established a cold storage for king salmon at Port Moller and began processing salmon roe as well. However, this effort was sporadic until 1977 as there were not enough kings to support the cold storage and no fresh frozen market for reds at the time. Fish continued to be purchased by Peter Pan and tendered to False Pass or King Cove for processing. Since 1978, there has been a cold storage operation at Port Moller and in addition in 1977, Whitney-Fidalgo brought a tender into the area and Steve Black made the first effort to buy and fly fresh fish out of Port Moller and Nelson Lagoon.

**Current Operations.** During the 1981 season Peter Pan again purchased fish for their cold storage at Port Moller and also tendered fish to King Cove for canning. They operated a daily tender service to Nelson Lagoon and obtained virtually 100% of those fish. However, Peter Pan's capture of red salmon from the Bear and Sandy River caught by fishermen out of Port Moller followed the same trend as at South Unimak--precipitous decline. The reasons for this was the same as at South Unimak as well--fierce competition from as many as six cash buyers on the grounds pushing the price to a level which attracted even traditional, committed Peter Pan fishermen to desert them.

According to Peter Pan Seafoods Inc., the company processed nearly 2.0 million pounds of salmon in 1979 and 5.0 million pounds in 1980 at Port Moller. Table 4.4.9 summarizes the raw fish input and product weight as well as the corresponding dollar values for the two seasons. It is estimated that 50% to 60% of the raw fish is supplied by Nelson Lagoon fishermen.

**Employment Patterns.** The processing facility at Port Moller employs a maximum of 120 including cold storage workers as well as mechanics and carpenters for vessel maintenance, store, culinary, laundry, and health personnel. Of those 120, 80 normally work in the freezing process. Ninety-five to one hundred workers are supplied out of Seattle by the ILWU of which 40% were Filipino. Roughly 20-25 employees were from Alaska locations primarily Anchorage and Juneau. In 1981 the plant employed one individual from Nelson Lagoon, while in

Table 4.4.9

## PORT MOLLER SALMON PROCESSING STATISTICS, 1979 and 1980

	Input (Exvessel value)	Output (First wholesale value)
1979	1.8 million lbs. \$ 2.0 million	1.5 million lbs. \$ 3.8 million
1980	5.0 million lbs. \$ 2.9 million	4.5 million lbs. \$ 7.9 million

1980 they employed five. Wages paid were the same union scale as elsewhere, but no estimation of an average season's wages by a worker was available.

**Community-Processor Relations.** At present, relations between the community and Peter Pan seem satisfactory; however, there is a certain amount of resentment due to not being able to take advantage of the high prices being paid by cash buyers for red salmon. The community's sense of dependence on Peter Pan is high.

**Developmental Trends.** Because of the tremendous explosion of cash buyers in the area, Nelson Lagoon fishermen will likely be interested in getting a better price for their fish. This will be counterbalanced by the desire for the relative security of continuing their relationship with Peter Pan.

#### Other Economic Activities

Economic activity in Nelson Lagoon other than salmon fishing is minimal. There is, however, a significant amount of entrepreneurial activity in support of salmon fishing. One example of this is a boat storage building which two local fishermen built where they store their own boats as well as those of others. Another example of this is the self-trained electronics specialist-fisherman who is able to work on almost any electronic gear that needs it. A final example is a fisherman who carpenters benches for hanging nets and sells them locally. In addition, although virtually any Nelson Lagooner over the age of ten is capable of hanging a gillnet, several people earn money by hanging nets for others. These are examples of the kind of self-generated economic activities which Nelson Lagooners have developed to support their salmon fishing.

Other than this, there are very few other private sources of income. One fisherman-entrepreneur has recently completed a five-unit motel/apartment which seems to do a booming business during the summertime. Another local entrepreneur operates a water truck to bring fresh water from a spring 16 miles down the beach. There is no local store of any kind so canned goods are brought in on the BIA ship North Star III in the spring. Fresh produce is obtained regularly from Cold Bay.

There are few government jobs in Nelson Lagoon. There is a community health aide paid for by the PHS and a telephone operator paid for by the village council. The council also manages the electric plant and pays the person in charge of keeping the plant running. All of these positions are part-time. There are also part-time funds for secretarial and



bookkeeping work for the council and the village corporation.

The school is the final additional source of employment. There are part-time positions for an aide, secretary, and janitor which are funded through the regional school board but hiring is done by the local advisory board.

#### Subsistence

Subsistence pursuits in Nelson Lagoon are somewhat lower than what one finds in King Cove and substantially lower than what is found in False Pass. This can likely be attributed to three aspects of contemporary existence in Nelson Lagoon. The first of these is the extraordinary prosperity. The second is the village's relatively poor location for a number of subsistence activities. Situated out on the end of a spit between a lagoon and the Bering Sea, it is a substantial distance from the customary areas of caribou abundance. It is also quite a distance from crab and halibut populations in Port Moller. The final reason is the relatively attenuated ties with historical Aleut subsistence practices due to the death of the majority of the Aleut ancestors in the epidemic of 1918-1919.

As a result of their location, the Alaska Peninsula caribou herd is normally a significant distance away from the villagers and they must travel far up the Hoodoo River or over to Port Moller to hunt them. Estimates of local take range fairly evenly from two to four depending on the size of the household.

Several households also mentioned moose as a subsistence resource. Moose were said to be found east of the mountains at the head of Herendeen Bay but only on rare occasions would the moose make it south past the mountains.

Nelson Lagooners do put up salmon, but they tend to smoke it more than the people of False Pass who like it simply sundried (called yucla). The number of salmon put up ranged from 75 to 130 per household with reds and silvers being the preferred species.

Other subsistence items that were prominently mentioned were ducks and geese which are taken in the fall far up the Hoodoo. Crab and halibut were mentioned by several households. Clams from the flats of Nelson Lagoon were mentioned as an occasional item by most households.

The other major subsistence resource that was mentioned by the seven households interviewed was berries. Here again, however, there are no good berry supplies in the immediate

vicinity of Nelson Lagoon so that villagers must travel up the Hoodoo or into Herendeen Bay for this purpose. The most favored berries are salmon, moss, and blueberries.

The season of most intensive subsistence activity in Nelson Lagoon is the late summer and fall. Caribou season opens August 10 and households usually try to get one caribou at that time for fresh meat. In September silvers are smoked and frozen. September and October is the season for berry picking up the Hoodoo and for hunting ducks and geese. In the past households might stay at small cabins on the Hoodoo for a week or so to accomplish these activities. That practice appears to be less widespread now than it was. Another post-fishing activity that combines subsistence activities with recreation is a fall trip to the hot springs in Herendeen Bay. Several households may go over for a few days to relax and at the same time hunt caribou and moose, fish for halibut and catch a few crabs.

Households reported the percentage of their protein consumption that was local and nonlocal as indicated in Table 4.4.10. This distribution produces an average of roughly 50% local and 50% nonlocal protein consumption per household.

In sum, subsistence production at Nelson Lagoon is pursued by all households to varying degrees with salmon, caribou, and berries being the most prominent staples. Most activities are normally carried out as a household, and many take place in the fall after the end of the commercial fishing season.

#### 4.4.4 Nelson Lagoon Social and Political Organization

**Social Organization.** Kinship is the primary principle of social action in Nelson Lagoon but membership in the community is also important.

At present, descent is reckoned in the patrilineal fashion dominant in the United States. Bilateral recognition of kinship relationship is also present. The patrilineal descent principle allows one to identify "families" or lineages based on surname and to trace their history and geographic origin.

As can be seen from Table 4.4.11, there are three major lineages from which over 80% (13 of 16) of the households are derived. In addition two of the other households are officially related to one of the major lineages. Thus, only one local household does not trace its descent in some fashion from one of the three major lineages.

Each of the major lineages, as mentioned previously, traces itself to the union of a Euroamerican fisherman and an

Table 4.4.10

NELSON LAGOON LOCAL AND NON-LOCAL PROTEIN CONSUMPTION  
BY HOUSEHOLD, 1981

Household	% Local Protein	Percent Non-Local Protein
1	40	60
2	67	33
3	50	50
4	25	75
5	20	80
6	60	40
7	75	25

Table 4.4.10

NELSON LAGOON HOUSEHOLDS BY LINEAGE

<u>Lineage</u>	<u>Households</u>
1	6
2	4
3	3
4	1
5	1
6	1
.....	<u>1</u>
Total:	16

Aleut wife. In one case, the male head of the lineage locally is the direct descendant of such a union while in the other two cases, the Aleut wives have survived their husbands. Both of the two matriarchs who survived were quite prolific, one having 13 children and the other having six. These two lineages are tightly linked in that there are three marriages which link offspring of the two women.

The third lineage derives from a single local male offspring who brought in his wife from King Cove in 1946. They lived with his Scandinavian father for two years before he was able to purchase one of the other three houses in Nelson Lagoon at that time. None of his offspring have intermarried with either of the two larger lineages, although he is recognized as the chief. Relationships appear quite amicable between members of the different lineages.

Of the nine households in Nelson Lagoon which presently have both members of the couple present, four are between residents of Nelson Lagoon. Three are between male Nelson Lagooners and females from False Pass, one is between a male from King Cove and female from Nelson Lagoon and one is between a Nelson Lagoon male and a woman from California.

Kinship ties from Nelson Lagoon to other villages are strongest with King Cove and False Pass with only tenuous ties to Sand Point. There is also a link to Naknek where one Nelson Lagoon male moved upon marrying a woman from that village. By far King Cove has the largest number of Nelson Lagoon women married in. There are no marriages between residents of Nelson Lagoon and residents of Port Heiden, the next village to the north although apparently political figures from the two areas are relatively well-known to each other.

The relationship between sisters is very strong in this community. Much interaction and mutual support between households tends to follow these lines. One of the special kinship features found in Nelson Lagoon is the pattern of brothers from one family marrying sisters from another. In the case of the two major lineages, they are united through three marital links in one generation. In addition two brothers from King Cove are married to twin sisters from the largest Nelson Lagoon lineage. Finally, two sisters from False Pass are married to two brothers of the largest Nelson Lagoon lineage. These extensive ties will force virtually all Nelson Lagooners of the next generation to look outside the village for marriage partners.

The two matriarchs are extremely important figures in the community. Their children send teenage grandchildren to help them with chores and also to give the children the benefit of their grandmother's knowledge. The matriarchs are provided for by their children. The youngest child of one did not attend high school so that he could stay home and provide for his mother.

Kinship provides the matrix for a wide variety of activities in Nelson Lagoon. As mentioned previously, households typically fish together with young males serving as crewmen for their fathers until they begin their own operations. Males assist each other with vessel repair, household construction, and a variety of other types of mutual aid. Daily visiting and informal socializing is normally done between members of the same lineage who reside in separate households. In addition, recreational and subsistence outings are also normally organized according to kinship groupings.

Kinship affiliation is less important for parties where generation appears more salient as an organizing principle. This appears to be due in part from different generations' attitudes towards drug and alcohol use. Music preferences and marital status also are important differences which lead to different patterns of partying.

In addition to kinship, membership in the community is also an important social organizational principle. Birthday parties, for example, are events to which all members of all households are normally invited and will normally attend for at least a short period. It is assumed that everybody is invited and it is expected that everyone will show up. Part of this community closeness is also hinted at by the use of kin terms by younger members for older residents with whom they have distant kin link. For example, one young man of nineteen referred to a man, married to one of the young man's cousins, as his uncle.

There are no institutionalized voluntary associations in Nelson Lagoon.

Kinship is the important organizing principle for daily interactions, mutual support, socialization, economic activity, and recreation in Nelson Lagoon.

**Political Organization.** Nelson Lagoon is highly sophisticated, organized, and integrated in its political functioning. The village is unincorporated and is governed by a five-member village council which was established at the time of ANCSA in 1971. The chief serves as the council

president. The council is composed of five leading males from the three lineages and has apparently not been altered since it was founded. The decisions of this body are accepted by the rest of the villagers and there is no apparent internal factionalism. The village council received State revenue sharing of \$25,000 for the first time last year. They also received self-determination funds from the BIA but decided not to apply for them because of red tape involved.

In 1980 the village council received a \$40,000 RDA loan for two diesel electric generators which are presently in operation. The village council has been aided by a retired school teacher who took up residence at Franz Point after teaching at Nelson Lagoon for a number of years. This person has been very useful in the council's attempts to upgrade services for the community.

Nelson Lagoon is part of the Aleutian Regional School District whose regional school board makes final decisions on local school affairs. There is a three-member community school committee which handles local school matters and makes recommendations to the regional board. There appears to be a good relationship between community residents and the teachers as well as between the local committee and the regional board. The retired teacher mentioned in the previous paragraph has served on the regional board for several years and was its president for one year.

The local village corporation has 54 stockholders. The board of directors for the corporation is made up of the same individuals who serve on the village council. This tight integration insures that a united front can be presented to external agencies by Nelson Lagoon and that unified and consistent policies can be set. Although the village corporation has explored possibilities for a local fish processing plant, nothing has materialized to date. One board member said it is not difficult to get local men to act together on most issues of mutual concern, but it is difficult to get them to cooperate on the sale of their fish. The corporation was operating a small fuel company in 1981 to serve village needs.

One of the community's major problems is that none of the land on which homes are built is privately owned. This will be remedied following conveyance of lands to the village corporation which, in turn, is expected to reconvey title to the surface estate to third parties which have historically used or now occupy the lands. The more difficult problem concerns the 1280 acres which ANCSA required to be put into trust for communities not incorporated as municipalities until

such time as they incorporate. Nelson Lagooners are fearful that the state might use this land as a lever to force them to incorporate by refusing to release lands on which young people can build houses. The villagers are adamant in their desire to see that the community controls who settles there and what development takes place.

Community residents have had relatively little interest in the Aleut Corporation (regional profit-making corporation) to date, but this might change due to the threatened suspension of transportation services by the BIA ship, North Star III. The Aleut Corporation is presently attempting to establish relatively inexpensive oceanic transportation for the Aleutian chain and Nelson Lagoon may soon require such service.

Nelson Lagooners are well-represented politically on the Peninsula Marketing Association Board of Directors. This association represents Peninsula fishermen in price negotiations each spring, but likely of greater importance to Nelson Lagoon fishermen, the board also represents Peninsula fishermen at the annual Board of Fisheries meetings when regulations are established. The chief and the retired school teacher sit on the seven-member board which also includes four members from Sand Point and one from King Cove. Thus, Nelson Lagoon has a voice on the board to protect its fisheries that is disproportionate with its demographic importance in the region.

Although they are served by the Aleutian/Pribilof Island Associate, Nelson Lagooners object to the way in which the APIA's Board of Directors is structured because they do not have their own representative. Rather, they are expected to voice their concerns through other representatives. They have the same objection of the Regional Coastal Zone Management Board that was formed in early 1982. The leadership of Nelson Lagoon is astute and able. They are convinced that they alone can represent their own point of view because of their unique location and circumstances. It is for this reason that they insist on their own involvement in decision-making which influences their community.

#### 4.4.5 Nelson Lagoon Sociocultural Organization

Language. At present there are three speakers of Aleut who live in Nelson Lagoon, all of whom are over 50 years old. The chief, whose Aleut mother died in his infancy, was raised by his Scandinavian father and therefore understands very little of the language. In the matriarchs' households Aleut is frequently spoken; however, the clear and overwhelming



everyday language for all activities is English.

The adult generation in their 30's has no interest in preservation or revitalization of the language through a bilingual program. One source suggested that the next generation, that is, their children, would be the ones to actively pursue the language.

**Ethnic Identity.** It appears that Aleut identity in Nelson Lagoon before ANCSA was submerged and undervalued and that it is of greater but not very great importance at this time. Youngsters appear to be self-confident and assertive knowing full well precisely from whence they came. These identities seem to successfully fuse Scandinavian and Aleut heritages. For example, the high school students began agitating for a bilingual program and in their discussions explored the possibilities of either Aleut or a Scandinavian language before the parents laid the idea to rest. Aleut identity has been reinforced through the regional school district's program which have brought Nelson Lagoon students in contact with traditional Russian Aleut elders from villages further west. Those programs have also brought them into contact with Aleut youngsters from the Russian-Aleut island villages of Unalaska, Akutan, Nikolski, and Atka. One of the most important events for reinforcing Aleut identity in Nelson Lagoon youngsters has been training for and participating in the Alaska Native Youth Olympics. The Aleutian Regional School District sent its first team to this event in 1979 and the three Nelson Lagoon students who participated in it got their first real opportunity to interact with Eskimo and Indian youths from other Alaskan Native cultures.

For many of the parental (as opposed to grandparental) generations raised in an environment in which Native practices were often denigrated and labelled primitive, these developments are not regarded positively. For them traditional Aleut food, skills, games, dances, and songs are something to be ridiculed or at best tolerated in others but not to be cultivated in those who have never experienced them. The issue does not provoke emotional confrontations between generations, but there is an underlying tension. It is difficult to predict how far ethnic revitalization will proceed in this isolated village which has been almost totally shut off from a part of its cultural heritage.

**Socialization.** There are three important features of socialization practice in Nelson Lagoon which invite comment. The first of these is an intense and early involvement of children in economic activities including technical areas such as net hanging and engine repair. Although this is especially

true for males, female children are also quickly trained to help prepare needles for net making and eventually, by their teens, for net making as well. Boys at about age ten begin fishing with their fathers. If there are no other younger children, the entire household may well go out fishing. Several Nelson Lagoon males now in their late 30's reported being independent fishermen at age 13 or 14. Even a 19 year old contemporary fisherman reported being an independent fisherman at age 15, although he is a rare case in the present age of limited entry.

A second important socialization principle is emphasis on formal educational success. There is a degree of value placed on education, but emphasis is clearly placed on technical skills learning. A number of Nelson Lagoon young adults in their 20s and early 30s have spent some time in college, although only one is a college graduate. Two young adults expressed interest in the possibility of attending the University of Alaska, Anchorage. Reading levels and interests are high--most of the men are quite conversant with technical manuals on engine and electronic repair. In part as a result of educational orientation, there is little problem with children in school and only an occasional problem with dropping out. The local high school has graduated several students in the past year who have gone on to college for at least some time.

A final important note about Nelson Lagoon socialization is that in addition to independence and self-confidence, youths also appear urbane in the sense that they have interests, particularly in the areas of music and motorcycles, that are characteristic of urban environments. This appears to derive from the fact that many families engage in significant amounts of travel. Some families may spend as much as three months out of the community in the winter in places like Anchorage, Seattle, and San Francisco.

Religion. There is no church or minister in Nelson Lagoon, and the community appears to be highly secularized. Russian Orthodox values are likely preserved by the older Aleut women while the Protestant tradition of Scandinavian fathers continues as well. There is no apparent continuation of any "traditional" Aleut belief system.

Values. Five separate but related constellations of values appear important to Nelson Lagooners:

- 1) Family and kinsmen
- 2) Community
- 3) Salmon fishing

- 4) Productivity, self-sufficiency, adaptability
- 5) Standard of living

Family and kinsmen. The kinship section discussed the importance of the nuclear family and kinsmen to residents of Nelson Lagoon so that little more needs to be said at this point.

Community. The coherency and integration of the political organization of Nelson Lagoon reflects the importance of maintaining the essential quality of this community--its smallness, its prosperousness, its integration. In addition to the political sector, the important value of community is emphasized in the parties and celebrations in which all participate.

Fishing as a livelihood. This is, of course, valued because of the prosperity it brings but there is an additional element of value too. One young man with a college degree who worked for the Alaska Federation of Natives said that although the economic rewards from salmon fishing had been substantially better than what he could make in the city, he doubted that he could go back to a desk job again. Few Nelson Lagooners would be willing to disagree with him. With the exception of some serious hard times from 1967 to 1970 when several men went to Squaw Harbor to work in the cannery during the winter to support their families, Nelson Lagoon men have preferred to stay at home and fish, even when the returns were not very lucrative.

Productivity, self-sufficiency, and adaptability. There is an element of competitiveness between Nelson Lagoon fishermen which can occasionally erupt into harsh words. However, there is always grudging respect for the highliner and healthy respect for the others who try hard. The value of self-sufficiency is apparent in the cultivation of the skills which local men and women use in preparing their gear and repairing their technology. Each lineage has at least one shop area in which net hanging, vessel painting, small engine repair, and electronics maintenance are carried out. Most households also have a smokehouse for fish processing and a backup diesel generator for electricity should the community's plant fail.

The most salient example of the adaptability of Nelson Lagoon fishermen is the recent introduction and use of jet boat which they have intensified their set gillnet fishing in the Hoodoo River. Another striking example is the floor plans for several of the houses which have been built in the last two years. The new houses are unassuming two-story "ranch

style" rectangular houses in which the second floor is the living quarters which include living room, dining room, kitchen, bathroom, and three bedrooms in a rather conventional suburban design. The ground floor, however, is innovative in combining the shop and root cellar, which had previously been separate structures, under one roof. Nelson Lagoon fishermen can now work on engines, skiffs, jet boats, and nets right in their houses.

Standard of Living. Nelson Lagooners have all the modern material goods which they enjoy. From washing machines and dishwashers to stereo consoles and even airplanes, Nelson Lagoon families enjoy the consumption of luxury goods, although they frown on wastefulness or nonutilitarian excess. They do not destroy things to buy new ones (in fact they are quite careful with their equipment) nor do they buy things just to let them lay around. Fishermen with big luxury cars do drive them to the airport and the boat landing; the cars do not just sit in front of his house.

A final element of the standard of living which Nelson Lagooners have come to value is the opportunity to travel to urban centers and experience music, art, movies, restaurants, sports, and other amenities of modern urban life.

## 4.5 PORT HEIDEN

### 4.5.1 Port Heiden Introduction

Port Heiden, long known as Meshik village, is located on the west side of the small bay formed by the Meshik River meeting Bristol Bay. The village is about midway between Port Moller and Pilot Point, its neighbors to the south and north respectively, with each of these about 60 miles distant. Scheduled air service several days per week to Anchorage, the ready availability of charter service for King Salmon and Dillingham, and the use of private planes by Port Heiden residents create a sense of accessibility belied by the remoteness of the physical location.

The Port Heiden vicinity is made up gently sloping, wet tundra, sweeping down from the Aniakchak caldera which rises about five miles east of the village. The poorly drained soils are vegetated exclusively by grasses and shrubs. One of the fresh water lakes, known as Goldfish Lake, abuts the village to the south and provides a safe water supply.

The village itself is located on a sandy beach at a site that was formerly protected from erosion by a small island some 300 feet offshore. The island has now been eroded by the combined action of storm tides and wind, causing a substantial treat to the village itself as the beach on which it sits is directly exposed to the Bristol Bay weather. As a result, the village has undertaken a concerted effort to relocate to a safer area about one-half mile behind the beach, along the road to the airport.

Port Heiden is located within the Aleutian Biotic Province a zone of common climatic features extending from the Lake Iliamna region to the western Aleutian Islands. In common with the entire province, Port Heiden's climate is relatively mild temperature with high rates of wind and precipitation. As a northern sub-region in this province (defined by the height of land on the Alaska Peninsula), the area including Port Heiden is exposed to the more severe storm weather of the Bering Sea. The region to the south has considerably more precipitation, 50 inches per year as compared to 25 inches per year on the north side, and is protected from the severity of the Bering Sea storms (Oswalt 1967:15).

Port Heiden, as well as many other sites along the north shore of the Alaska Peninsula, was populated during the aboriginal period. Unfortunately, little is known of the prehistory of this region although, with new research underway by Japanese and American archeologists, more information

should be forthcoming soon. The generally accepted version of the peopling of this region has it that the Peninsula was inhabited by an Aleutiq (Southern Eskimo) speaking population, the Peninsular Eskimos, which was absorbed by an expanding Aglemiut population from higher in Bristol Bay at the time of Russian contact in the early 19th century (Oswalt 1967:4-5). The Russian American Company records, unfortunately, have little to say about the peninsular region as their base of operations was in the vicinity of Nushagak where, in 1818, they founded Alexandrov Redoubt. In 1839 Father Veniaminov, the remarkable early missionary, wrote that the north shore of the peninsula was inhabited by Aglemiut (cited in Oswalt: *ibid.*).

During the era of the frontier cod fishery in Alaska in the latter quarter of the 19th century, Port Heiden was a recognized settlement (Fitzgerald 1981). While the Scandinavian surnames of most Port Heiden residents reflect the influence of cod fishermen who married and remained in this region to raise families, there is little continuity between the present day Port Heiden population and that which was present at the turn of the century.

The epidemics which raged throughout Alaska in the early part of this century, especially that of 1918-1919, were devastating in their effects upon the Native population of Port Heiden and other peninsular settlements. As a result of the depopulation effected by the epidemics, there were many relocations throughout the region--the contemporary population of Port Heiden traces the residence of its parents, and in some cases grandparents, to many former settlements throughout the area.

The early part of the century also saw the establishment of the Bristol Bay salmon fishery, represented in Port Heiden by a saltery operated by the Port Heiden Packing Company. Some residents found casual labor at the plant for which they were paid in small tokens rather than cash. Though this plant closed down during the 1930s, the residents of Port Heiden continued to have a role in the salmon fishery. The boom of the salmon canneries on the neighboring Ugashik River drew some Port Heiden men north, originally to work in the cannery, and eventually to fish on the boats.

During the Second World War a substantial Army and Air base was located just north of the village. Residents report little involvement with the base, which is located some eight miles from the village, but it left a legacy of material effects, not the least of which is the large landing strip which still serves the community. The base was demobilized

after the war and subsequently served for many years as a White Alice communications network site. From the mid-1960s to the mid-1970s, the former White Alice site was leased by RCA Alaska as part of its communication network. The site is now abandoned.

#### 4.5.2 Port Heiden Demography

Population Trends: Past, Present, Projected. Population records for Port Heiden are available dating back to Petroff's figures for 1880 although, unfortunately, for several important periods no information was available. In the history of population size at Port Heiden, shown in Table 4.5.1, the effects of several important historic events can be discerned.

The earliest record of population size at Port Heiden indicates 40 people. This would be after the incursion of Aglemiut into the peninsula from further north in Bristol Bay, and at this point the population on the peninsula would have been dispersed into a number of settlements, probably all of roughly equivalent size. The population began to grow rather quickly around the turn of the century, as the 1890 figures shows an 85% increase over the preceeding decade. Figures for the 1910 population, if available, would presumably show similar growth, for present day Port Heiden residents recall having heard that the village was "very large" before the epidemic in 1918-1919.

The results of the epidemic are shown in the drastic drop in population by 1920 and the reconsolidation of population from elsewhere in the region is reflected in the larger 1930 figure. The lack of figures for 1940 and 1950 is especially unfortunate for the effects of the construction of the military base at Port Heiden would be visible in the trends during this period. From informant accounts it is clear that people from smaller outlying settlements continued to move to Port Heiden during this period, but one wonders if a trend toward urban outmigration, common elsewhere in Alaska during the 1960s, might also have emerged at this early date as a result of the increased exposure to the material amenities seen on the bases.

From the present age structure of the Port Heiden population it is possible to confirm one population dynamic common throughout rural Alaska during the 1950s. This decade saw the introduction of much improved public health measures and, as a result, a sharp jump in the birth rate (Alonso and Rust 1976:6). This is reflected, it seems likely, in the large 20 to 35 age cohorts, discussed below.

Table 4.5.1

HISTORICAL TRENDS IN POPULATION:  
PORT HEIDEN

	Population
1880	40
1890	75
1910	NA
1920	30
1930	51
1940	NA
1950	NA
1960	74
1970	66
1980	92
1981	109*

\* Field notes July 1981

Source: Rollins 1978

Table 4.5.2

PORT HEIDEN POPULATION BY AGE AND SEX, 1981

Number of Males	Age	Number of Females
1	65+	1
2	60 - 64	1
1	55 - 59	1
2	50 - 54	2
3	45 - 49	0
4	40 - 44	1
1	35 - 39	5
3	30 - 34	2
6	25 - 29	2
10	20 - 24	6
7	15 - 19	7
3	10 - 14	4
5	5 - 9	2
6	0 - 4	3
<hr/>		
Totals <sup>1</sup>		
54		37
56.7%		43.1%

<sup>1</sup> Ages unknown for 8 males and 10 females.



From 1960 until sometime in the 1970s, Port Heiden was subject to another dynamic common throughout rural Alaska, namely, the loss of population through urban outmigration (Alonso and Rust 1976:6). After 1960 the population in Port Heiden declined slightly, reaching 74 persons in 1970.

After this decade of uncertainty, the population again began to grow in Port Heiden, reaching 92 in 1980 and, according to figures gathered for this report, to 109 in 1981.

Population growth in Port Heiden, then, has been effected by many factors, most notably the epidemic in the early part of the century, and the complex dynamics of the past two decades. In most respects Port Heiden has followed the patterns of rural Alaska in general over the past few decades but its prognosis appears more optimistic than for many other villages of similar size.

Generally speaking, the villages of less than 150 population have continued to decline during the 1970s and the same is projected for the 1980s (Alonso and Rust 1976:4,12). Port Heiden, on the other hand, shows every sign of having stemmed the earlier trend towards urban migration and, as further discussion of economic, social, and political features of this community will demonstrate, Port Heiden enters the decade a robust and viable settlement.

Although it impossible to predict the rate of growth of this community over the next decade, the factors cited above suggest a very positive outlook. A further indicator can be seen in the recent rise in the number of babies in the village, noted below.

Year	Births
1978	1
1979	2
1980	5

Population Structure: Age, Sex, Ethnicity, and Household Size. In 1981, 109 people made their home in Port Heiden. In contrast to many villages in Bristol Bay, there is very little fluctuation from season to season, as most of the people here remain in the village year-round and Port Heiden boat owners hire only a handful of non-residents as crew members.

The Port Heiden population is young, with males outnumbering females by 62 to 47. For males the average age is 25.5, while for females the average age is 24. These

averages are drawn upwards by the presence of several quite elderly individuals, for half of the Port Heiden population is actually under 22 years of age.

The distribution of this population by age (see Table 4.5.2) shows several important features. The first is the prominence of the cohorts of people aged between 20 and 35 years, a reflection of the increase in the birth rate during the 1950s. The second striking feature is the decline in the cohorts between ages 5 and 15. This is presumably a reflection of outmigration during the 1960s. If many women of childbearing age left the village during this decade, and the evidence suggests that young women were slightly more likely than young men to migrate, then the number of children born during these years would have dropped. Finally, as noted above, the size of the 0 to 4 years of age cohort suggests another increase in the birth rate.

Port Heiden consists predominantly of Aleuts, the preferred self-designation of Native people of this region, although the small number of White families in Port Heiden does constitute a sizeable percentage. There are nine households headed by non-Aleuts whose members constitute 20% of the total Port Heiden population. What is most striking about the ethnic composition of the village, however, is not the mere presence of a substantial proportion of Whites, but the fact that these non-Aleut residents are, for the most part, well integrated into the economic, political, and social spheres of Port Heiden society.

Housing is limited in Port Heiden with some new couples unable to live in their own home as a result of shortages. There are 32 households in the village at present, with an average 3.31 persons per household. The actual distribution of household size, shown in Table 4.5.3, demonstrates that virtually all households are of moderate size.

New housing is seen as a fairly urgent need in Port Heiden, both because of overcrowding in the few relevant instances, and more generally because of the poor condition of many of the present homes.

#### 4.5.3 Port Heiden Socioeconomic Organization

##### Fisheries: Commercial Harvesting

**General Overview: Strategies and Species.** The commercial salmon fishery is by far the dominant economic activity in Port Heiden, involving virtually every adult in the community in one capacity or another. While the Port

Table 4.5.3

## PORT HEIDEN HOUSEHOLD SIZE, 1980-1981

Household Size	Number of Cases	Total Persons
1	5	5
2	6	12
3	9	27
4	4	16
5	5	25
6	1	6
7	1	7
8	1	8
Total	32	106

Average persons per household: 3.31

Table 4.5.4

## PORT HEIDEN PATTERNS OF LIMITED ENTRY PERMIT HOLDINGS, 1981

Permit Type	Alaska Peninsula		Bristol Bay		Total
	M	F	M	F	
Purse Seine	0	0	NA	NA	0
Drift Gillnet	1	0	8	0	9
Set Gillnet	5	5	0	2	12
Total	6	5	8	2	21

Average permits per holder: 1.04

Heiden drift gillnet fishermen could, with their present equipment, participate in the Togiak herring fishery, they very rarely do so. Only isolated cases of participation in this fishery occurred over the past several years, despite the potential for very lucrative returns. Port Heiden fishermen have not participated in the emerging bottomfishery, the technological possibility of doing so is largely precluded by their present vessels. Finally, the small size of the Port Heiden vessels precludes their taking part in the winter crab fisheries and Port Heiden residents do not seek employment as crew members aboard the larger Bering Sea crabbing vessels.

Fishing effort in Port Heiden, then, is focused exclusively upon the salmon runs from late May to early September. In the current adaptation, two strategies have emerged: one based on the use of drift gillnets fished from 32-foot vessels, the other based upon the use of set gillnets on shoreline sites, normally with the aid of a small skiff. Both the Meshik and the Ugashik Rivers are used by Port Heiden fishermen--the Meshik supports king and silver salmon runs of modest stature while the Ugashik system has runs of all five species, with the red salmon run by far the largest on this river.

For the drift gillnet fishermen, the season begins with the preparation and launching of the vessels in mid-late May. When the Meshik River king salmon run begins to appear in late May or early June, these vessels congregate high in the mouth of the river, ferrying their catch back to the village daily. By mid-June the red salmon runs begin to appear in lower Bristol Bay and the Port Heiden fishermen proceed to Pilot Point to fish in Ugashik Bay. This run is actually mixed with pink and chum salmon appearing, particularly as the red run begins to taper off in mid-July. The Port Heiden vessels then return to their home village to await the silver run in the Meshik River. As many as one-fourth of the boats are drawn up out of the water before the silver run, particularly if the Ugashik portion of the season has been especially successful. The silver run begins in mid-August and continues for several weeks. The boats fish high in the mouth of the Meshik River, at approximately the same location used for the king salmon run.

The Port Heiden set gillnet operators, with only two exceptions, fish on the Meshik River. Two set gillnet operators have Bristol Bay permits and fish in Ugashik Bay during the major red salmon run, generally travelling up and back with the drift gillnet vessels. King and silver salmon are taken by the set gillnetters in the Meshik River regardless of whether their permits are for the Alaska

Peninsula or Bristol Bay.

The set gillnet season begins with the king salmon run on the Meshik River. Most people use sites on the beach directly in front and adjacent to the village, but a few individuals travel up into the mouth of the river to set their net. Since most set netting is done from very small skiffs, the distance up to the mouth and the need to transport fish back down to the village for sale discourages all but a few from fishing in this more productive location. During the red salmon runs, mid-June to mid-July, the set nets are all located at the site in front of the village. The Meshik River does not have a local red salmon run so the set nets are attempting to intercept passthrough red salmon stocks as they mill in the bay before proceeding further up into Bristol Bay. As a result, the landings are not normally very substantial unless, as occurred in 1979, the winds push the red salmon run up into Meshik Bay. When this happened, the landings were many times those of the average years. Finally, when the silver run arrives most set netters continue to fish the sites in front of the village while the few who had fished kings upriver return to this more demanding, but more productive, site.

Limited Entry Permits. Port Heiden residents held 21 limited entry permits in 1980. These included permits for both gillnetting gear types in the Alaska Peninsula and the Bristol Bay areas. As shown in Table 4.5.4, most of the drift gillnet permits were for the Bristol Bay region, permitting access to the Ugashik River system while most of the set gillnet permits were for the Alaska Peninsula area. In addition, all drift gillnet permits were held by men, while just over half of the set gillnet permits were held by women. Only one individual held two permits, so the average number of permits per holder was very low at 1.04.

The value of the limited entry permits owned by Port Heiden residents has risen dramatically to the point where they now represent very substantial sums of money. In 1981 the estimated value of a Bristol Bay drift gillnet permit was \$80,940 while the market value of a Bristol Bay set gillnet permit was \$32,704. With prices like these, it is clear that non-permit holders confront a major obstacle to entering the fishery. With the relatively low number of permits per holder in Port Heiden, there are no "surplus" permits to be passed on to younger members of a family as they come of age to operate a fishing vessel of set net site. In one instance a young man and his family were able to purchase a drift gillnet permit but the seller required a set gillnet permit in addition to a substantial sum of money to complete the deal.

These factors point to a coming crisis in Port Heiden. A growing number of young men and women will be unable to enter the fishery as gear operators for lack of a permit and will be constrained to work as crew members on the vessels or at the set net sites of the more fortunate community members.

**Areas and Times Fished.** The people of Port Heiden fish within both the Alaska Peninsula and the Bristol Bay areas. The Meshik River, or Port Heiden Bay, is within the former while Ugashik Bay is part of the latter.

The Port Heiden section of the Alaska Peninsula Management Area is defined as the zone between Cape Stroganof and a point on the mainland, enclosing only the inside water of Port Heiden Bay. The fishing season is open in this section from May 1 to September 30, with weekly fishing periods from Monday at 6:00 a.m. to Thursday at 6:00 p.m. As noted above, all Port Heiden fishing takes place in this section during the early king run and again during the late silver salmon run. During the middle part of the season the drift gillnet boats that who are licensed for Bristol Bay travel to the Ugashik River to fish.

The Port Heiden section is something of a buffer zone between the two regulatory areas, for Port Heiden fishermen with Bristol Bay permits are allowed to fish in Port Heiden Bay except during the so-called regulatory period. From June 23 to July 17, openings on the Ugashik River, which is in the Bristol Bay area, are defined by emergency openings only. This period corresponds with the major red salmon run on this river. During this period, the Port Heiden drift gillnet vessels all fish in the Ugashik River. After the regulatory period they return to the Meshik River to fish the silver salmon run.

It should be noted that in the 1970s when the Ugashik district was closed to commercial salmon fishing due to the weakness of the runs, Port Heiden fishermen continued up the coast to fish in the Egegik district and even on occasion traveled all the way to Naknek to fish in the Naknek-Kvichak district.

**Fleet Characteristics.** The Port Heiden fleet is made up of 14 drift gillnet boats, all of which are 32 feet in length, the maximum allowed under the regulation in effect in Bristol Bay. This fleet is about evenly divided between two types of boats. Half of the boats are of wooden construction dating from the early 1960s. These were purchased under credit arrangements with the Alaska Packers Association which historically operated the cannery in Pilot Point. The other

half of the vessels are new fiberglass boats, built by the Modutech Company of Seattle since 1978. The age distribution of these vessels is detailed in Table 4.5.5.

The two types of boats differ considerably in their capacities. While the wooden boats cost a great deal less, their hold capacity is half that of the wider new boats. The older boats are said to be worth \$10,00 to \$15,000 and to have a capacity of 10,000 to 15,000 pounds of fish. The newer boats, in contrast, are worth \$80,000 to \$90,000 and have holds with nearly 30,000 pounds capacity. The older vessels are much less seaworthy when full and oblige their operators to exercise more conservative judgment about the weather. The result is a sharply diminished ability to fish the peak periods of the runs.

Another major factor in evaluating the value of the fleet is the durability of the vessels under the poor harbor condition prevailing at Port Heiden. There is no deep water moorage available nor is a harbor feasible, given the silt and sand bars of Meshik Bay. The boats take a terrific beating in the weather as a result. They are hauled out of the water for storage each September and relaunched in late May. Throughout the season they are left dry on the sand twice each day by the ebb tide. The wear on the boats is considerable, especially in the case of the wooden boats.

The set net operations usually include a small skiff, although in a few cases the nets are only picked at low tide when they are out of the water. There are six skiffs in use in Port Heiden at present, including one which was reconstructed from an old hull. These range in value up to \$300.

#### Vessel Economics.

In addition to the cost of the boat itself, the gear operators incur additional expenses in operating costs, nets and equipment, and payments to crew members. For example, one of the newer vessels has electronic equipment worth approximately \$10,000 and hydraulic equipment on board worth \$5,000. All vessels have hydraulic equipment and most of the newer vessels have the full complement of electronics--radar, radios, and depth finder--reflected in the above costs. The older vessels have fewer electronic instruments as a rule, most lacking radar.

The nets themselves must be replaced every second or third year. Unhung gillnet web, that is, without the lead and cork lines attached, is available for \$300 for 50 fathoms,

Table 4.5.5

PORT HEIDEN FISHING VESSEL AGE, 1981

	Year of Construction						Total
	1980	1979	1978	1961	1957	1937	
Number of Cases:	3	1	3	3	3	1	14



while hung nets cost between \$800 and \$900 for the same length. Set net operators are permitted to set two shackles or 100 fathoms of gear in the Port Heiden area while drift gillnet operators are permitted three shackles or 150 fathoms of net in the Ugashik River. For the lower income set net operators, then, less than \$500 may be tied up in gillnets while, for the drift gillnetters, the costs may rise to as much as \$6,000 if hung nets are purchased for each of three major species. On the more productive boats it is quite likely that sums of this magnitude are tied up in nets, for reinvestment in equipment is a commonly used means of sheltering income from taxation.

The patterns of crew shares show considerable variation. For the single member accompanying a drift boat operator, the crew share is normally between 25% and 33%, with a higher share in the case of an experienced crew member. Each member of the two-member crews received a smaller percentage of what was probably a larger gross income for the boat, with both crew shares together not exceeding 35%. Port Heiden captains also occasionally make use of a third crew member during the peak of the run in the Ugashik River. This person is referred to as a "picker," is commonly not a kinsman of the captain, and is paid a lower share of the boat's earnings for the short period he/she is aboard, normally a 10% share.

In the handful of instances where the gear operator is not the owner of the vessel, as when a vessel owner does not have a limited entry permit, the vessel owner is usually paid rent for the boat in the form of a 20% share.

Crew shares to assistants on a set net site can be a large part of the take, particularly if the assistant is a family member or friend who has agreed to work as a partner. In the latter case the proceeds of the site are split equally, while an assistant usually receives something on the order of 20%. In many instances the system of shares for assistants was much less formal, as these were family members working on what served as the sole source of family income.

In sum, then, from the gross income of the gear operator, several categories of costs must be deducted to derive a picture of net earnings. Table 4.5.6 notes the estimated rates of gross and net earnings in the Bristol Bay area from 1975 to 1979. Taking 1979 as an example case, these figures suggest that 79% of the gross income of the drift gillnet vessel is taken up in expenses, leaving a return of 21% of the gross as the operator's net income. During the same year, set net gear operators were estimated to have spent 56% of their much smaller gross income on expenses, leaving a return of 44%.

Table 4.5.6

ESTIMATES OF BRISTOL BAY SALMON FISHERIES  
GROSS EARNINGS, COSTS, AND NET EARNINGS  
1975, 1976, 1977, 1979

Permit Type	1975	1976	1977	1979	
				Bristol Bay Resident Fishermen	All Fishermen
<b>Drift Gillnet</b>					
Average Gross	7720	13150	16628	52147	71696
Costs <sup>1</sup>	4025	5673	6557	NA	NA
Net Earnings	3695	7477	10071	23480	30372
Crew Share (31.7% of gross for 1975, 1976, 1977 only)	2449	4172	5275	NA	NA
Return to Operator	1246	3305	4796	11002	16620
<b>— Set Gillnet</b>					
Average Gross	2113	3628	4782	14724	16493
Costs <sup>1</sup>	2993	3557	3913	NA	NA
Net Earnings	-880	125	869	6833	8191
Crew Share (21.6% of gross for 1975, 1976, 1977 only)	456	782	1031	NA	NA
Return to Operator	-1336	-657	-162	6468	6706

<sup>1</sup> Operating, Fixed, and Capital Costs

Sources: Rogers and Kreinheder 1981; Baker and Muse 1979; Larson 1979

Crew Composition. In addition to the owner-operators, a number of local people are employed as crew members on the drift gillnet boats or as assistants at the set net sites. Slightly different crew arrangements characterize these two types of operations.

Port Heiden drift gillnet vessels are divided equally between those which use one person in addition to the captain, and those which carry two crew members. The crew component on a given vessel also varies with the salmon run being fished, with smaller crews used for the king salmon and silver salmon runs, even by those vessels which use a two-man crew during the Ugashik red salmon run. In addition, it is not uncommon for an owner-operator to use different crew members for these different portions of the season. Changes of crew during a single run usually indicate that frictions on the boat have reached an intolerable level for some reason.

During the 1981 red salmon season, Port Heiden vessels included seven two-member crews and seven single-member crews, for a total crew population of 21. All were male and local residents accounted for a majority of the positions. Of the total, 15 (71%) were local residents, and of these, just over half were related as kin group members to the boat captain. Non-locals filled six positions, or 29% of the total. Normally these individuals were friends known through school or friends of the family. Unknown non-locals very rarely receive an invitation to work on Port Heiden vessels.

As noted above, the drift boats occasionally take on board a young, inexperienced hand as a "picker" for the height of the red salmon run. Although no broad sample was drawn, from informants' remarks it appeared that local people were reluctant to accept this sort of position on a vessel and that only non-locals are found in these positions.

Virtually all set gillnet operators have an assistant and in several cases an older woman would be assisted by all of her children at some point during the season. In some cases the second person at the set net site is referred to as a partner and receives a 50% share of the returns of the effort. In most instances, however, the helpers are referred to as assistants and, from the few anecdotal accounts given, it appears that the share given this person averages 20%. In most cases the partners and assistants are family members although a few cases of local friends as assistants were reported.

Landings and Earnings. Both landings and earnings for Port Heiden gear operators have improved dramatically since

1975. That was the last of the very lean years of the early 1970s in Bristol Bay, while 1979 began a series of years in which returns approached their highest historical levels. Table 4.5.7 displays the trends in total harvest and value for Port Heiden from 1975 to 1979. The two years not shown in these figures, 1980 and 1981, maintained and even improved upon the performance of 1979. Over the five years for which figures are available, the total landings by Port Heiden gear operators jumped from 168,000 pounds to 866,000 pounds, an increase of 515%. Over the same period the total value of the salmon harvest rose even more dramatically, since the prices paid per pound rose sharply. From a total of \$70,000 in 1975, the value of the salmon catch leapt to \$942,000 in 1979, an increase of 1,345%. From 1978 to 1979 alone, the increase in value was just over three-fold, from \$308,000 to \$942,000.

Not all gear operators did equally well in the salmon harvest each year so a simple per capita average obscures more than it illuminates. However, figures which reflect the average harvest and earnings distinguished by gear type fairly reflect the difference in scale between the drift and the set gillnet operations. Table 4.5.8 displays these averages by gear type for the period 1975 to 1979.

Turning first to the series of figures for the drift gillnet operators, several features are of interest. First, the number of gear operators remains constant, an indication that the limited entry system has effectively barred new entry. All permits in the community were used in the lean years and no new permits were obtained for the more prosperous years. Secondly, the average landings per vessel have risen steadily throughout the period, and quite sharply between the last two of the years shown here. From 1975 to 1978 average landings by drift gillnet operators doubled, and from 1978 to 1979 they increased by 50% again. Earnings increased even more rapidly--average gross earnings of \$65,983 in 1979 represent an 800% increase over the \$7,921 average gross earnings in 1975.

Set net operators have shown greater fluctuation in number from an anomalously low four gear operators in 1975 to a high of 13 gear operators in 1979. Set netting by Port Heiden residents is subject to more variation in the rate of return because there is no local red run in the Meshik River and the rate of participation reflects this variation. The unusual case in 1979 in which wind and weather drove a major body of the red run into Port Heiden Bay, led to a dramatic jump in the number of people operating set gillnets.

Table 4.5.7

## PORT HEIDEN TOTAL SALMON LANDINGS AND EARNINGS

1975 - 1979

	1975	1976	1977	1978	1979	Average
Number of Gear Operators	12	18	17	17	21	17
Total Landings (1,000 pounds)	168	350	310	411	866	421
Total Earnings (\$1,000)	70	155	193	308	942	334

The growth in set net landings and earnings has not been as constant as that of the drift gillnetters although over the five-year period in question, the net change in earnings was an increase of 2,049%, up to an average earning of \$32,061 in 1979. Landings also increased over the period by 692% up to an average harvest of 31,724 pounds. Following two low years, 1975 and 1976, both landings and earnings jumped in 1977, by 234% in both cases. Landings fell off in 1978 although the earnings continued to jump, and then both landings and earnings increased sharply in 1979. Landings nearly tripled and earnings nearly quadrupled over the preceeding year. The exceptionally high levels of performance in 1979 were not repeated in 1980, and 1981 was again a poor year for set netters at Port Heiden.

As is apparent from both series of figures in Table 4.5.8, the drift gillnet boats are considerably more productive than set net gear. Taking the five-year period as a whole, drift gillnet operations show average landings three times those of the set net operators, but in most years the difference was actually higher than this. In terms of average earnings over the period as a whole, the drift gillnet operators have had earnings 2.1 times those of the set gillnet operators. Again, the usual differential between the performance of the two gear types is lessened by the exceptional set net season in 1979, but this is unlikely to occur very often.

#### Developmental Trends

**Vessels.** As was apparent from the census of Port Heiden vessels and their ages, there is a dramatic trend to upgrade the quality of this fleet. Half the vessels were constructed after 1978 and in August 1981 plans were being made to purchase two new fiberglass vessels. This will bring the proportion of new boats to 57% of the fleet.

More importantly, when a new fiberglass boat replaces an older wooden vessel, several factors contribute to greater productive capacity despite the fact that each vessel operates the same length gillnet. First, the newer boats have better electronic equipment and can safely operate under weather conditions that would oblige the older boats to remain tied up. More importantly, the newer boats have larger holds. This is accomplished by increasing the width of the newer boats; most of them are 14 feet wide compared to 8 to 10 feet wide for the older vessels. The newer boats are therefore able to fish longer between deliveries to the tenders.

**Areas.** The area used by the Port Heiden drift gillnet

Table 4.5.8

## PORT HEIDEN FISHERMEN'S AVERAGE SALMON LANDINGS AND GROSS EARNINGS BY GEAR TYPE, 1975 - 1979

Gear Type <sup>1</sup>	1975	1976	1977	1978	1979	Average
Type VI: DG						
Gear Operators	(8)	(9)	(8)	(8)	(8)	(8.2)
Average Landings (lbs.)	21,000	36,396	35,334	45,995	63,726	40,509
Average Earnings	\$ 7,921	\$ 15,338	\$ 19,846	\$ 27,842	\$ 65,683	\$ 27,053
Type: SG						
Gear Operators	(4)	(9)	(8)	(8)	(13)	(8.4)
Average Landings (lbs.)	4,578	5,770	13,741	10,956	31,724	13,354
Average Earnings	\$ 1,565	\$ 1,829	\$ 4,280	\$ 7,198	\$ 32,061	\$ 12,651

<sup>1</sup> DG - Drift Gillnet  
SG - Set Gillnet

vessels has varied a great deal over the recent past while the set net operators have always operated primarily on the beach in front of the village and on the Meshik River. Historically, the drift gillnet boats have gone up to the Ugashik River for the red salmon run but from 1972 to 1978 this river system was closed to all red salmon harvest as a result of depleted stocks, so the Port Heiden vessels fished further up the peninsula to the Egegik and Naknek Rivers. With the reopening of the Ugashik River to salmon harvest in 1979, all Port Heiden drift gillnet effort was again directed to this river.

Unless unusual circumstances again intervene, the Port Heiden drift fleet is unlikely to alter its current pattern of use areas. The Ugashik River has experienced three extraordinary seasons, 1979, 1980, and 1981, but even if the levels of returning stocks were to decline partially, the Port Heiden fleet would continue to fish this particular river. Only in the event that the rivers further up the bay began to receive returning runs considerably higher than those of the Ugashik would Port Heiden boats be likely to make the additional trip.

It is extremely unlikely that set gillnet operations will move to new locations for several reasons. First, they do not have vessels capable of transporting fish over long distances back to the village. Second, while set netting on the outside bank of the Alaska Peninsula down toward Ilnik is permitted, the breakers would make this virtually impossible. In effect, then, set netting can only be done in protected bays, and Port Heiden has the only such bay in the northwestern most portion of the Alaska Peninsula area for which these operators have limited entry permits.

Gear. The gear used in Bristol Bay has for many years been closely regulated. Maximum gillnet length is specified, as is maximum depth and the minimum size. These regulations have been devised to limit the productive capacity of the vessels. Given the increasing efficiency of the fleet resulting from larger, newer boats and better electronics, it is unlikely that any changes in the regulation of gear will be made. If they were made, they would likely place further limits on the length or mesh size requirements currently in force.

One interesting evolution in the use of gear, within the constraints noted above, was mentioned. During the time when fishermen were paid by the processors, "by the fish," the fishermen used the legal minimum mesh size. Their interest was in getting as many fish as possible. When the processors



began to pay for the fish by the pound, the fishermen began to use nets with slightly larger than legal minimum mesh size in order to screen out the smallest legal fish and to harvest a higher proportion of larger, heavier fish.

**Permits.** There are virtually no multiple permit holders in Port Heiden. An average of 1.04 permits per holder means that there are no surplus permits in the village which could be passed on to younger fishermen without depriving someone else. The current number of permits, then, limits the number of vessels in the Port Heiden fleet. More importantly, the severe obstacle posed by lack of a permit means that many young people in the village may never fish except as crew members on someone else's boat. Excellent earnings in the fishery combined with state loan programs may lead to the purchase of permits from outside Port Heiden for local residents.

**Species.** The focus of the Port Heiden fleet at present is the rich Bristol Bay salmon run. In fact, this effort is even more closely concentrated on the red salmon runs, as some boats are not in the water in time for the king salmon run and some are pulled from the water before the silver salmon run. If the red salmon run were to decline slightly, more effort would probably be devoted to these other species of salmon. Even so, present levels of attention to kings and reds is much higher than was formerly the case. It has long been difficult to find markets for these species since the traditional canneries concentrated their operations so heavily on the red salmon run. In the last few years, however, a local fish buying operation, described below, has insured a secure market for the salmon for the early and late portions of the season.

With present vessels it would be possible for the Port Heiden fishermen to participate in the Togiak herring fishery, but only in isolated cases have individuals chosen to do so. This is largely a result of the extraordinary prosperity of the salmon fishery in the past three years. If the salmon fishery were to decline, it is likely that more effort would be devoted to this complementary fishery.

Port Heiden vessels are not capable of participating in the Bering Sea crab fishery and, while it would be technically possible for them to fish for bottomfish, the price structure of this fishery is such that small-scale operations are extremely unlikely to be commercially viable.

**Sum.** These trends in the Port Heiden fishery may be characterized as intensification of the productive capacity of a constant number of vessels and concentration on the red

salmon run of the Ugashik River. Expansion of the fleet is precluded by the limited entry system and expansion in the geographic region used by the fleet is unlikely so long as the Ugashik River maintains current levels of returning salmon stocks.

#### Fisheries: Commercial Processing

History. Since at least the early 1960s, Port Heiden has not been the site of traditional processing operations. However, since 1973 a local family has operated a fish buying company oriented to the fresh-frozen market.

From a modest beginning with purchases of silver salmon only during the seasons from 1973 to 1976, Christensen and Sons Fish Company has grown considerably, expanding its facility and increasing its employee roster. In 1973 the company began to purchase fish during silver season, using a single low capacity ice machine and a small shed as the facility for this work. Marketing arrangements were ad hoc in this period but, for the most part, involved sales to wholesalers in Anchorage. The labor employed in preparing these fish for transshipment was provided exclusively by family members.

Beginning with the 1976 season, the company expanded to include purchases of all species of salmon. A second ice machine was purchased and the building locally known as the "Fish House" was expanded to permit a larger scale operation. The highest volume handled through the company came in the 1979 season when roughly \$500,000 worth of purchases were made from the local fishermen. This was the year of the exceptional show of red salmon inside Meshik Bay. At that time the labor force was five persons, all from the village but none of them immediate family.

Current Operations. The Christensen and Sons Fish Company currently operates at a level slightly below that of 1979. The 1981 season, including an estimate for the silver salmon purchase, represented approximately 400,000 pounds of fish. This gross volume is made up of approximately equal portions of kings, reds, and silvers, with a minor proportion of chum salmon.

During the 1981 season seven people were employed in the Fish House. Three of these people, including a foreman, were from the village, and four, including a part-time employee, were from outside the region. These employees were compensated on a piecework basis for the first time. One penny per pound of fish processed by the whole group was paid

to each employee with the exception of the foreman who received two cents per pound. According to informants, payments under this system were considerably better than under the previous hourly wage system.

Christensen and Sons Fish Company recently experimented in another aspect of processing. During the Ugashik red run, there is chronic need of a means of transporting the set net harvested fish from the beach to the tender vessels. Since there is no port in Pilot Point, the tenders are unable to pick up the fish taken on the beach. Christensen and Sons leased a landing craft during the 1981 season for this purpose. Two Port Heiden residents were employed to run this operation. Fish were picked up on the beach and transported to the Swiftsure and Whitney Fidalgo tenders. The company received a flat rate from the processors for transportation of the fish.

While this transportation served an obvious need, mechanical problems with the landing craft make it unlikely that they will continue this experiment.

**Employment Patterns and Working Conditions.** The crews working at the Fish House are uniformly young people nowadays although at its inception, the family operation involved people from a wider age spectrum. Most of the non-local workers in the plant work for only a single season. Local people are less likely now to work in the plant, but it was unclear whether this was in reaction to the wages paid or a result of the surge of prosperity from the fishing side of the operation.

As the processing workers were out of the village during the lull between runs when this research was conducted, it was impossible to observe the operation of the processing plant or to interview regarding its operation. Nonetheless, from anecdotal accounts offered by residents who had previously worked there, several significant points emerged. First the Fish House was perceived as something of a community by most people. It had originated as a service to find a market for species of salmon which did not attract the interest of the traditional canneries. Secondly, the atmosphere during processing is apparently relatively good-natured. Finally, wages have been the subject of minor complaints.

**Community-Processor Relations.** Since this particular processing operation is so closely integrated into the community, it is difficult to differentiate community-processor relations from the web of social relations which bind the family which operates this company

and the other residents of the village. Certainly, the Fish House is seen as a good thing, since without it kings and silvers would likely not have a market. Similarly, there are no complaints about the Fish House having been a poor corporate neighbor. On the contrary, the mechanical equipment from the plant appears to serve needs throughout the village.

**Developmental Trends.** The fly-out fish buying operation of the Christensen and Sons Company is now well established. Given the configuration of seasons and rivers fished, however, it is unlikely that this operation will grow to any significant degree. Most likely the Fish House will continue to process the early and late salmon runs as well as the production from the set nets on the beach in front of Port Heiden.

#### Other Economic Activity

**Government.** The City of Port Heiden represents the largest single source of additional employment though all four of its positions are part-time. These include the mayor and the clerk, each of whom works an average of ten hours per week, a light plant maintenance man, and a fuel delivery man, for whom the average work week is approximately six hours. In the first case, the monthly salary is \$400, and in the second case, the salaries are \$225 and \$200, respectively. In addition, the city hires casual labor to perform such tasks as road maintenance, snow removal, and maintenance of the city facilities. This form of casual employment can involve up to 13 persons in a month, with the summer months generally the period of greater activity. Hourly wages range from \$8 for unskilled labor to \$10 for skilled labor (such as electrician) with supervisors receiving an additional \$1 per hour.

The Bristol Bay Area Health Corporation employs a full-time health aide in Port Heiden. Her responsibilities include initial consultation with residents for a wide variety of health-related complaints, preventive health care and information, and first aid. For serious illnesses she coordinates the transfer of patients to the regional hospital in Kanakanak, near Dillingham, for treatment. Her salary is paid primarily by the Bristol Bay Area Health Corporation but is supplemented by the City of Port Heiden.

Finally, the U.S. Postal Service employs one individual in Port Heiden to run the post office. The position is part-time, coinciding with the days of arrival of the mail plane, three days per week.

**Education.** The Lake and Peninsula School District, which

operates Meshik School, employs two Port Heiden residents. One person is employed as part-time cook and another works as the maintenance man and bus driver.

**Private Business.** Reeve Aleutian Airways maintains a full-time agent at Port Heiden. In addition, a part-time permanent assistant is on salary and temporary casual laborers are hired from the village to assist in unloading the planes and to help with the annual fuel shipment.

Big game hunting, especially for bear and caribou, is an important economic activity in Port Heiden and the Alaska Peninsula generally. This activity, in fact, makes up an important part of Reeve's business at this location. As many as five guides operate out of Port Heiden in a given year. Some have long-standing involvement with the region. Only one local resident is currently involved as a guide although several others have participated in this sector until a recent incident with game regulation violations.

The Port Heiden Trading Company is the only food store in the village. It is rather small in size (less than 1,000 sq.ft.), given the population of the village, and is used by most residents to supplement the large orders they make each fall directly from food wholesalers in Anchorage. The Port Heiden Trading Company is open two hours each weekday and employs the two owners and occasionally their teenage daughter.

#### Subsistence

While the salmon fishery, especially drift gillnetting, has been quite prosperous in the recent few years, the Port Heiden community remains dependent to an important degree upon the subsistence resources of the region. The recent monetary prosperity of the village should not mislead in this respect. The recent revenues are not evenly distributed throughout the community and some families have fared much better than others. Also, much of this windfall was reinvested in improved equipment, particularly new boats, and some was dispersed through purchase of luxury consumer items. Hence, generally speaking, the rise in incomes of the last four years has not entailed a directly proportional decrease in dependence upon locally produced foodstuffs.

Subsistence production emphasizes salmon and caribou with less substantial utilization of moose and migratory waterfowl. Shellfish, including clams and cockles, are eagerly sought except when warnings for PSP (Paralytic Shellfish Poisoning) are made, as was the case in 1981. Sea mammals, of which

seals are most abundant locally, are rarely exploited for meat or for oil.

All households in Port Heiden prepared a considerable quantity of salmon for home consumption. Most of this subsistence-use salmon comes from the set net harvesting in front of the village; none is brought down from the Ugashik system. Included within the subsistence portion of the set net harvest are any seal-bitten salmon, a proportion that has increased in recent years as the seal population in the region has apparently expanded. Reports as to the quantities of salmon used for subsistence purposes correlate with one another rather closely. The heads of the larger households consistently reported preparing approximately 150 to 200 salmon each year for subsistence purposes. It appears that these fish provide for not only the resident household group in these cases, but also for the families of married sons who reside in separate households in the community. One family reported a smaller quantity, i.e., 50 fish per year, but reported that they didn't use salted salmon very much. In general, of the salmon prepared for home consumption, roughly one-third is smoked, one-third salted, and the remainder frozen whole.

The Port Heiden region has the good fortune of being near a transit zone for the Alaska Peninsula caribou herd which, in a 1980 census, was reported to be 15,000 to 20,000 and growing. Again, the levels of harvest by household appear rather constant; large households consistently reported the harvest of eight to ten caribou per year. Smaller households estimated their annual consumption at four caribou. Sport hunting at present levels is not reported to conflict with subsistence harvest.

Moose are found in the vicinity of Port Heiden though not immediately nearby. Informants note that while it is possible to get a moose nearly every year, and most households do so, it requires either taking a boat up the Meshik or the "North" river or else flying up toward the slope of Aniakchak Crater five miles behind the village.

Geese provide another food source although extensive exploitation by sport hunters has noticeably diminished the returning flocks in recent years. Stroganoff Point, opposite the village on the outside of Port Heiden Bay, is an important flyway intersect during the fall migration. This is the site of the excessive sport hunt, as well as a now-diminished subsistence harvest by the residents of Port Heiden. Informants note that during the sport hunting heyday of the last few years, hunters did offer unwanted geese to the

village. However, several days would sometimes elapse between harvest and the transfer of the geese to the village and many were wasted by spoilage. Port Heiden residents report that now annual consumption might not exceed a dozen geese in most households, while a few report consumption of as many as 30. All local residents concur that the flyway patterns have changed, resulting in a sharply limited opportunity to harvest geese.

Wild vegetables are utilized for subsistence purpose though now only mossberries are widely used. Wild celery and wild spinach are collected by a limited number of people, whereas mossberries are collected in large quantities by all households.

Sea mammals are rarely taken for subsistence in contemporary Port Heiden. In previous decades, seal oil and seal meat were more widely consumed and appreciated. Today, such consumption is limited to a small number of elder residents, and even for these people the use of sea mammal oil or meat is occasional.

In summary, Port Heiden enjoys strong wildlife resource levels in the area and these continue to be widely utilized for food. The range of preferred wild foodstuffs has narrowed somewhat, and geese, while much appreciated, are now of limited availability. The general level of dependence upon local food resources remains quite high in Port Heiden. Informants suggest that 90% of all protein in the diet of Port Heiden residents is derived from local foodstuffs while the bulk of the other components of the diet, notably carbohydrates, is provided by purchased foods.

#### 4.5.4 Port Heiden Social and Political Organization

##### Social Organization

Kinship. Kinship systems define relationships between relatives by descent and by marriage and often play a major role in the organization of small-scale, face-to-face societies. In Port Heiden, recognition of kin follows largely upon the lines of the standardized North American norms. Children take the names of the fathers, while relatives through both the father and the mother are recognized. Thus, the system would be referred to as patrilineal and bilateral.

The most common residential unit in Port Heiden is the nuclear family and when an extended family shares a household, it is because of the housing shortage, not preference.

Although they are not residential units, lineages are recognized by their names and, behaviorally, there are several areas in which members of a lineage are most likely to cooperate. Property is not held in common by the lineage, but assistance with expenses incurred in purchasing equipment, for example, is most likely to come from kinsmen. Relatives play an important role as crew members on many boats. Subsistence harvests are most likely to be shared among kin first, although sharing is not limited to this circle of people.

The Port Heiden population is made up of 14 lineages but 11 of these are represented by only a single, or in two cases, two, households. The remaining three lineages are much larger--two of them have 28 members, or approximately 25% of the village population each, while the third has 12 members.

Members of all three of the major lineages are related as either in-laws or cousins, depending on the generation, and first degree relations extend to most of the other lineages as well. The exceptions are the several households in which both adults are non-Aleut.

To be more specific, among the senior generation in Port Heiden, a marriage between two of the major lineages made in-laws of both lineages in this generation. In the middle generation, that is, the offspring of those persons related as in-laws, these two lineages are related to one another as cousins. The third major lineage is related in this generation to each of the others by a combination of three marriages. In the third, or junior generation, the members of the first two lineages are now cousins once removed, as no new marriages have been effected between their lineages. The third lineage is related as cousins to both of the other two in this generation as a result of the marriages contracted the generation before.

Kinship, clearly, integrates this community quite closely. Discussion of kin relations created through marriages in Port Heiden raises the question of how marriages outside the village create linkages with neighboring villages. Again, it is useful to distinguish the pattern for each of three generations. In the senior generation, all individuals married before settling in Port Heiden. In the cases for which information was available, these marriages involved people from Port Moller and Bear River, former settlements immediately to the south of Port Heiden. Also of note in these marriages is the fact that in several cases a spouse married in Port Moller had originally come from Chignik, on the south side of the Alaska Peninsula.



In the middle generation, born between 1939 and 1965, the majority of marriages were contracted between residents of Port Heiden with such unions accounting for eight of the 14 cases for which information was available. Of the remainder, two involved partners from neighboring Chignik and Pilot Point, one a partner from Dillingham, two with partners from Anchorage, and one with a partner from outside of Alaska.

Finally, in the junior generation few marriages have been contracted to date. However, of the three marriages so far, none involved two partners from Port Heiden. Spouses moved to Port Heiden from Pilot Point, Chignik, and Anchorage.

The most striking feature of this analysis of marriage linkages is the fact that only during the middle generation did Port Heiden residents tend to marry among themselves; in both the senior and the junior generations there is a greater tendency for marriages to create linkages outside the village. These linkages, taken in overview, are about evenly distributed between the neighboring villages and locations outside the region and the state. Of the linkages created by marriage within the region, those with Chignik and Pilot Point are the most important.

In sum, kinship relations tie members of the community closely and form the basis of many kinds of activity. While marriages a generation and two ago created in-law relations between most members all of the major lineages, this pattern is not being repeated. Kinship relations between residents of the village may be expected to become increasingly distant, although the behavioral concomitants, i.e., crew selection and sharing of subsistence foods, are likely to continue with little change. Marriage choices have always created linkages with neighboring villages and with villages outside the immediate Port Heiden region. This pattern may be expected to continue and expand in the generation presently coming of age to marry. Chignik and Pilot Point appear to be the two locales from which marriage partners will most likely come.

#### Political Organization

Local Organizations. In 1972 Port Heiden became a second-class city and since that time local government has been provided by a seven-member city council from which a mayor is selected. Interestingly, the terms of office vary for each position so that some council seats are up for election each year, while others remain to provide continuity.

Since last year the City Council has employed a part-time

City Manager and a part-time City Clerk to exercise administrative responsibilities. The Manager is primarily responsible for developing programs for the city and seeking grants to fund these activities while the City Clerk is responsible for the bookkeeping and reporting obligations.

The City of Port Heiden provides four kinds of services in the village, the most important of which is the provision of basic utilities: electrical power, fuel oil, and road maintenance. The city owned and maintained light plant provides electricity to all homes in the village, with charges assessed on the basis of metered consumption. One employee is retained by the city to maintain the plant. A second major utility service is the bulk purchase of fuel each summer, from which smaller sales are made to households throughout the year. The price charged for fuel by the city includes home delivery and a part-time employee is retained for this purpose. The City Clerk handles billing for both electricity and fuel. An informal system of extending credit is in effect, with debts generally settled each year when the fishing pay comes in. The city maintains 26 miles of local roads, hiring as many as 13 casual laborers during the year as necessary.

A second area of city responsibility is in the construction and maintenance of city buildings--the City Office/Community Library, and the Health Clinic/Community Hall. These buildings were originally constructed with funds obtained by the Port Heiden Village Council prior to incorporation as a second-class city, but they are presently maintained by the city. City funds were used to thoroughly refurbish the Health Clinic/Community Hall last year.

Relocation of the village is a third important area of activity for the City of Port Heiden. As noted, the present site of many of the village's houses is threatened by erosion of the beach. Concurrently, there was a need to upgrade the quality of the electrical service lines to all homes. Under a special grant, electrical lines were installed along the road to the airport to act as an incentive for new home construction in this safer area. As of the summer of 1981, nearly half of the village's homes are located on this road.

The fourth city program has been fire prevention. A portable fire fighting tank was purchased as were individual fire extinguishers for each home and public building. If funds are available, more equipment will be purchased to upgrade the fire fighting equipment.

The operating budget for the City of Port Heiden in 1980

amounted to approximately \$100,000. As Table 4.5.9 shows, the most significant single source of revenue is the state's revenue sharing program, amounting to just over \$42,000 in FY1980. Next in importance are the revenues from the sales of electricity and fuel, providing about \$22,000 of the \$66,000 spent in providing these utilities. The remainder of the revenues are from small miscellaneous sources.

On the expenses side of the ledger, the most important item is fuel and the generation of electricity. Together, these consumed over two-thirds of the entire operating budget in 1981. Other significant expense categories were public roads on which \$16,000 was spent, and administrative salaries, on which \$10,000 was spent. In 1980 expenditures exceeded revenues by \$30,038.83. This deficit was made up from funds carried over from preceeding years.

The scale of municipal operations has grown over the past four years although, as Table 4.5.10 displays, the growth has not been constant. Revenues have increased steadily except during the past year, with a net increase of 19.4% over the four-year period in question. Expenditures have also risen, except during FY1977 and FY1978. The net increase in expenditure over the four-year period was 20.3%.

Another important local political organization is the Port Heiden Village Council, made up of seven members from among whom are selected a president, vice president, and secretary. Prior to the incorporation as a second-class city, the Village Council was the principal form of local government. Under its auspices, most of the public buildings in the village were constructed and a more limited set of services was provided. Since the formation of the City Council, however, the Village Council has had a more limited role. It continues to receive federal funding (PL93-638 funds) to maintain its administrative functions and occasionally the Village Council applies for special funding to supplement the funds secured by the city. In a recent case, the Village Council obtained funds from the federal Housing and Urban Development department (HUD) to supplement the relocation efforts of the City Council. There is some overlap in personnel between the two bodies and cooperation is very good. The Village Council acts as the tribal governing body for the Alaskan Native residents of Port Heiden.

The Port Heiden School Committee is a third local body although it differs from the others in that it acts as an advisory arm of a regional body, the Lake and Peninsula School District School Board. The local School Committee is made up three members who are responsible for representation of Port

Table 4.5.9

## PORT HEIDEN CITY BUDGET, FY1980

Revenues

Federal Revenue Sharing	\$ 457.00
State Revenue Sharing	42,311.00
Business License Refunds	118.51
Municipal Assistance	237.90
Other	101.08
Enterprise Revenues (Fuel, Electricity)	22,395.41
Building Rental	4,430.00
Miscellaneous Refunds	<u>205.00</u>
Total	\$ 70,255.90

Expenditures

Administration, Salaries, and Benefits	\$ 10,685.76
Fire Protection	2,500.00
Public Roads	16,063.04
Other Public Works (Fuel, Electricity)	66,188.83
Health Services	3,734.40 <sup>1</sup>
Miscellaneous: Truck Rental	<u>1,168.00</u>
Total	\$100,399.73 <sup>2</sup>

<sup>1</sup> Half of this sum is used to supplement the salary of the Health Aide, and half for supplies.

<sup>2</sup> The deficit in revenues was made up in carry-over funds remaining from the year before.

Source: Port Heiden Village Annual Statement of Expenditures and Revenues Year Ending June 30, 1980

Table 4.5.10

## PORT HEIDEN MUNICIPAL FINANCES, FY1977 - FY1980

<u>Year</u>	<u>Revenues</u>	<u>Expenditures</u>
1977	58,857.77	83,422.12
1978	78,447.26	63,947.20
1979 <sup>1</sup>	95,010.00	90,705.00
1980	70,255.90	100,339.73

<sup>1</sup> Actual revenues and expenditures for 1979 were not available so budget estimates are given here.

Source: Port Heiden Village Annual Statements of Expenditures and Revenues 1977-1980

Heiden's needs and wishes in the operation of the local K-12 school. A major priority of the School Committee has been the improvement of school facilities and, with the opening of the new Meshik School in early 1981, this goal has largely been met. Construction of an additional classroom was underway in the summer of 1981, bringing the capacity of the new school up four classrooms, all that are necessary for the present school-age population.

A second goal of the School Committee has been to improve the administrative relations between the Meshik School and the Lake and Peninsula District central administration, located in Naknek. This goal, too, has largely been met with the establishment of a sub-district office in Port Heiden, housed in the former elementary school building. The sub-district administrative office is responsible for creating a climate of greater responsiveness to local goals and has already prepared a series of enrichment programs using itinerant teachers and specialists who will visit Port Heiden regularly to provide programs such as music and special education.

The final local political organization to be considered actually straddles the line between local and regional entities. The Port Heiden Village Corporation, formed under the terms of the Alaska Native Claims Settlement Act (ANCSA), recently merged with the village corporations of four other villages to form the Alaska Peninsula Corporation. Besides Port Heiden, the villages involved are Ugashik, South Naknek, Kokhanok, and Newhalen. The decision regarding who participated in the merger appears to have been based upon personal relations between the principal initiators of the move rather than geographic proximity or historical relations between the villages. The Alaska Peninsula Corporation, then, represents a very novel grouping of interests in the sub-region.

The new corporation is governed by an eight-member Board of Directors, two of whom are currently from Port Heiden. The principal project of this corporation to date has been through a subsidiary which owns and operates a 124-foot catcher-processor vessel, the Great Pacific. Constructed for the corporation in 1979, this vessel has served as a crabbing vessel in the Bering Sea fishery, a salmon tender, and more recently in the processing of crab and bottomfish. Although the vessel did extremely well during its initial crabbing season, declining stocks necessitated the turn to other species of seafood. The present operations are not profitable, given the high initial cost of the investment and the generally poor market conditions for bottomfish. The more recent improvement in prospects for joint venture bottomfish

operations may put this operation in the black again.

**Regional Organizations.** Turning now to the village's participation in strictly regional organizations, a considerably lower level of activity is found. The Bristol Bay Native Corporation (BBNC), based in Dillingham, is the regional corporation formed under ANCSA in which the people of Port Heiden are enrolled. The BBNC has no Port Heiden residents on its Board of Directors and there is little effective involvement of Port Heiden shareholders in the activities of the regional corporation.

The Bristol Bay Native Association (BBNA) provides a number of social services and rural advocacy programs in this region. A Port Heiden resident sits on its Board of Directors but, again, the relationship seems quite remote. BBNA has not provided direct services in Port Heiden in the past few years and the village appears to have developed its own expertise in seeking funding for local government and special projects.

The Bristol Bay Area Health Corporation (BBAHC) represents an exception to the generally weak integration of Port Heiden into the network of regional organizations. The BBAHC provides direct services in Port Heiden through the village health aid program. As the local people often use this service, they are aware of the activities of the BBAHC at the regional level. The Port Heiden representative to the BBAHC Board of Directors maintains a very active flow of information between the board and the village. Local villagers are aware of, and concerned about, the difficulties experienced in the transition to BBAHC control of the hospital in Dillingham, for example.

Finally, the Lake and Peninsula School Board provides policy direction to and oversees the administration of the school district in the southern portion of the Bristol Bay region. The Port Heiden representative to this board is a highly respected and influential member. Administrators from the district often visit the village to solicit this board member's opinions about proposed policy. The placement of the sub-district office in Port Heiden further attests to this representative's ability to attract the attention of the district administrators.

**Political Process and Response Capacity.** Several features of political process in Port Heiden stand out. The first among these is the degree to which local political institutions seize the initiative for programs and services. This is equally true of the operation of the City of Port Heiden and of the efforts behind the formation of the Alaska

Peninsula Corporation. Local leadership is well developed in Port Heiden.

Equally striking is the fact that local Whites have been closely integrated into these political organizations. At various times the positions of Mayor, City Manager, and City Clerk have been held by Whites who now make their homes in Port Heiden. Perhaps more than any other factor, this attests to the climate of confidence which pervades the local political organizations of the village.

Local political figures are not only assertive and effective, but in the extra-local organizations on which they serve, they are highly respected members. A third important characteristic of political process, then, is the personal stature of several of its political leaders on a sub-regional level. As was suggested in the account of Port Heiden's representation on the Alaska Peninsula Corporation and the Lake and Peninsula School Board, it is the personal stature of the individuals in these roles which contributes to their effectiveness. In both instances they are leaders with an importance far beyond Port Heiden's relative weight in the region.

Finally, one is struck by the relatively low level of integration of Port Heiden into the activities of the regional corporation and association. From the activities of the Alaska Peninsula Corporation and the School Board, it might be suggested that Port Heiden tends to participate more in sub-regional entities and that these more accurately reflect local history and affinities. From this perspective it emerges that Port Heiden is in fact active on a sub-regional level. Indeed, it contributes dynamic leadership to these organizations.

The response capacity of this village's political institutions may be assessed in terms of two criteria. The first concerns the breadth of representation achieved in the local political organizations or, conversely, the degree to which factionalism tends to paralyze local political functioning. The assessment of Port Heiden's political institutions must be very positive on this count. There is no indication of divisive factionalism operating as an obstacle to political functioning in Port Heiden. Indeed, the ability to have integrated recently immigrated Whites into positions of formal political power suggests a climate of considerable confidence.

The second criterion contributing to this assessment concerns the technical abilities of the local political



institutions. From the account given above it is clear that the scale of operations of the City of Port Heiden and other organizations has been comparatively modest. However, local leaders have competently operated these programs and independently sought funding for special projects. This reflects a high level of technical competence for a village of this size.

Taken together, these factors suggest that the response capacity of Port Heiden's political institutions is considerably higher than what would be expected for a village of its size.

#### 4.5.5 Port Heiden Sociocultural Organization

As elsewhere in southwestern Alaska, a number of historic cultural influences are represented in contemporary Port Heiden. These include an aboriginal tradition, a Russian influence, and the influence of the turn of the century cod fishery. Contemporary Port Heiden Aleuts actively incorporate elements from each of these traditions into a unique configuration which allows them to meaningfully place themselves in the modern world. Although Port Heiden is small and relatively homogeneous, the limitations of the fieldwork period for this study necessarily limit the following remarks to a series of general observations.

**Language.** Language can be seen as a reflection of cultural heritage, for the use of Aleut represents a point of continuity back to the Aboriginal period. The use of Aleut in contemporary Port Heiden is limited to a few older individuals. English is the current language of communication in virtually all cases and, while certain members of the middle generation remember being unilingual Aleut speakers as children, the junior generation is not able to speak Aleut.

**Ethnic Identity.** Turning now to the topic of ethnic identity, the most striking feature is the relatively secure and non-conflictual definition of self as Aleut in Port Heiden. Initially, one is impressed by the self-assurance with which young people in Port Heiden identify with the village. Equally impressive is the fact that a number of Caucasians are incorporated into various mutual aid and political networks among the Port Heiden Aleuts. In particular cooperation during the fishing season incorporates both local resident Caucasians and some individuals from further up the peninsula.

Identification as an Aleut has a further dimension in accounts of the "old days." In many cases these were accounts

of heroic action by individuals from this or neighboring villages in which their stamina and skill in living on the land were the key virtues. These skills associated with aboriginal culture are still highly admired today.

Identification as a fisherman is a very important part of the heritage of Port Heiden residents. The relationship between this identification with a livelihood and ethnic identity is, however, indirect. The commercial fishery is not considered the special domain of Natives; indeed, historically the opposite was the case. Nevertheless, a majority of Port Heiden Aleuts have a Scandinavian forebearer dating from the period of the cod fishery around the turn of the century, and it is through this part of their line that many consider themselves historic fishermen.

The very positive association with Aleut identity is, it is worth noting, relatively recent. Informants refer to the racial prejudice which they endured on the part of the White military establishment during the operation of the airfield adjacent to the village during World War II. In their estimation, things have changed considerably for the better since the Alaska Native Claims Settlement Act and the economic and political power which this conferred to Alaska Natives.

Religion. Religious affiliation is a significant component of Port Heiden's sociocultural organization. The Russian Orthodox faith constitutes the nominal religious affiliation of virtually all members of the community. There is, however, no local Russian Orthodox Church, and the visits of the priest are limited to perhaps once a year. Nonetheless, important ritual occasions, notably marriages and funerals, are celebrated in the Church, often in St. Innocent Cathedral in Anchorage.

There is another religious tradition represented in Port Heiden, a non-denominational fundamentalist chapel. The resident missionary and his family are associated with an evangelical congregation in Homer. The Port Heiden Chapel has services several times each week, with a small number of regular participants.

As in other communities in the study area, there is a certain tension between the two traditions. Many people interpret the proselytization of the missionary as an attack upon the integrity of the Russian Orthodox Church.

Socialization. As concerns the informal transmission of skills, it is clear, especially in the area of fishery skills, that seniors still pass on skills to juniors. There is no

disruption of continuity in transfer of these skills to younger generations.

At the same time, the formal transmission of knowledge, through the school system, is also highly valued. The work of the active local school committee and its successes in obtaining new programs and activities are expressions of this commitment. There is virtually no dropout problem in Port Heiden and in the last few years university education has become a goal for several students. In fact, one graduate of Meshik School has gone on to university study.

Values. As elsewhere in the study region, perhaps the most striking cluster of values in Port Heiden is that associated with fishing as a livelihood. Although fishing itself is limited to a few short weeks of intensive activity, the topic is on people's minds throughout the year. The forecast for the salmon runs, impending regulatory issues, plans for new vessels and equipment--these and other fishery topics are constantly under discussion.

As noted above, the fishery also plays an important role in personal identity, related to, but not the same as, ethnic identity. Still on the topic of fishing and personal identity, it is interesting to note that Port Heiden fishermen and women do not appear to identify with the sort of "fisherman's bravado" which characterized much interaction in Sand Point. Port Heiden fishermen and women are much less likely to insist upon themselves as "self-made men," and they take the limitations of the regulatory system with less of the attitude that the "government" or the "bureaucrats" are needlessly toying with their livelihood. This may stem from past success at using the regulatory process to accomplish their objectives.

A second value, which might be characterized as village cohesiveness, is extremely important in Port Heiden. This value is reflected in the exceptionally high level of mutual assistance between the families during the fishing season. Launching the boats in May is a community affair, as is pulling them out in September. All adult males are expected to lend a hand. Even more striking are the examples of collective response to the potential crises caused by the poor harbor conditions and exposure to storm wind and tides. During the summer of 1981 there were several occasions when storms threatened to blow the boats loose from their moorings. In each case, a number of men from the village, in some cases men who were not even boat owners, spent long hours of the night battling the weather, tying and retying the boats to assure their safety.

The commitment to the village is also reflected in the political sphere. Port Heiden, as was emphasized earlier, turns to local initiatives first for its political responsibilities. Equally significant is the fact that several Whites, by reason of their clear commitment to the village, have been vested with significant political roles.

And so, while Port Heiden is not a village without its own special challenges--alcohol abuse can be a significant problem after fishing season--one cannot help but be struck by the vitality and the vibrancy of the value system which guides its responses.

## 4.6 PILOT POINT-UGASHIK

### 4.6.1 Pilot Point-Ugashik Introduction

Pilot Point is a small fishing village on the eastern shore of Ugashik Bay in southern Bristol Bay. Located about 80 air miles south of King Salmon, Pilot Point is the site of an abandoned Alaska Packers Association cannery, testimony to the history of this village. The neighboring village of Ugashik, located approximately eight miles upriver, was originally the site of an aboriginal settlement on the Ugashik River; it, too, saw extensive cannery activity after the turn of the 20th century.

The contemporary village of Pilot Point dominates Ugashik Bay from the top of a high bluff although the earlier cannery site is found on the sandy beach alongside the bay. The land behind the village is poorly drained wet tundra, broken by many small lakes. The land is nearly flat and the Ugashik River meanders in wide sweeps as it approaches its bay. The village of Ugashik, although only five air miles distant, is further by river because of the broad sweeps.

Behind the village the horizon is defined by the snowcapped peaks of the Alaska Range. Mt. Chiginiagak is the most prominent of these peaks in the Pilot Point vicinity. On some of these slopes active geothermal and volcanic sites are found.

The topography of the Pilot Point site is significant in one additional respect. The north side of the Alaska Peninsula is characterized by considerable distances between rivers large enough to form protected bays. Ugashik Bay provides such protection but harbor conditions are effected by another problem, that of silting. The Ugashik River deposits vast quantities of silt on the east side of the bay; as a result, the cannery dock is now inaccessible at all but high tide, and no truly suitable docking site is available.

Pilot Point and Ugashik enjoy moderate temperatures although, with high average wind velocities and high precipitation levels, the climate could not be characterized as mild. Data from neighboring Port Heiden indicate an average summer temperature of 40 to 50 degrees F with average winter month temperatures of 4 to 30 degrees F. Average annual precipitation is 13 inches, including 29 inches of snow. Winds are predominantly from the south-southeast, and average 12.5 knots or 23.1 kilometers per hour throughout the year.

More generally, the Pilot Point-Ugashik region is part of the Aleutian Biotic Province, a zone of common climatic features which extends from the Lake Iliamna region to the Aleutian Islands. The zone as a whole is characterized by relatively mild temperatures, high rates of precipitation, and high average winds, but the portions of the zone north and south of the Alaska Range differ markedly. The north side of the zone is exposed to the storm systems of the Bering Sea while the south portion is protected by the height of the land along the Alaska Peninsula; the north side, then, has higher average winds.

The aboriginal history of the Ugashik River drainage is poorly understood. The earliest written records for the lower Bristol Bay region are from the Russian Trading Company and the Russian missionary Veniaminof, but these emphasize the Nushagak drainage where the first important Russian settlement, Alexandrov Redoubt, was established in 1818 (Oswalt 1967:4-5, VanStone 1967).

The last decades of the 19th century saw the establishment of salmon processing facilities in both Pilot Point and Ugashik. Initially, salmon salteries were built in both villages during the 1880s. In 1883 and 1884, respectively, the Ugashik Fishing Station and the Bering Sea Packing Company were established at Ugashik. In 1889 a saltery was established near present-day Pilot Point. In 1892 Charles Nelson built a saltery at Pilot Point which he sold in 1895 to the Alaska Packers Association (The Pilot Point Journal 1979:5). During the early part of the 20th century, extensive processing operations were carried out in both settlements.

These operations were typical of those in Bristol Bay during this period. The companies imported their entire labor force and all necessary supplies each spring on barges. During the salmon season there was little use of local residents to harvest or process salmon and each fall the barges would return to Seattle or San Francisco with their crews and the year's salmon pack. Only a winter watchman would remain at the site for the remainder of the year.

The major flu epidemic of 1918-1919 had a catastrophic effect on the villages of Pilot Point and Ugashik. The combined population before the epidemic was estimated by local informants to have totalled 600 people, of whom only 60 survived the disease. The Ugashik population was virtually wiped out and the few survivors moved to Pilot Point. Informants also note that the efforts of the cannery managers were key in saving the few survivors of this epidemic.

Reindeer herding was introduced in the Pilot Point-Ugashik region early in the 20th century. During the 1920s, a group of Inupiaq Eskimos from the Teller region moved to Pilot Point in connection with the reindeer herding operation, giving rise to the name "Eskimo Town" for the part of the village where they settled.

During the 1940s, Lem Wingaard established the Red Salmon Cannery at Ugashik. For the Bristol Bay salmon fishery, in general, this period was one of manpower shortages as a result of the war. For the first time, Alaska Natives were integrated into the commercial fishery in significant numbers. The competing Alaska Packers Association operation progressively absorbed the Wingaard operation until Wingaard sold out in 1956. The following year, 1957, was the last year in which cannery operations were conducted in Ugashik (The Pilot Point Journal 1979:5).

After 1958 the APA cannery in Pilot Point was no longer used for active processing operations. Instead, tenders were sent down from the APA cannery at Egegik to retrieve the local catch. The APA facility in Pilot Point served only for vessel repair and storage after that time although APA's commercial store continued its operation until 1974.

The decade of the 1970s saw the closure of the Ugashik River to salmon fishing to permit the rebuilding of depleted stocks. During this time, local fishermen went up the Egegik River to fish. Happily, when the river was re-opened to harvest in 1979, stocks had returned to historically highest levels.

#### 4.6.2 Pilot Point-Ugashik Demography

Population Trends: Past, Present, Projected. The historic population trends for the villages of Pilot Point and Ugashik, displayed in Table 4.6.1, show a general pattern of rapid growth during the heyday of the canneries in the early decades of this century followed by a slow decline. Unfortunately, census data are not available for Pilot Point until 1940 and information is missing for Ugashik for several important decades.

The series of figures for Ugashik demonstrates clearly the importance of the cannery buildup at the turn of the century. From a population of 154 in 1890, Ugashik grew to a population of 348 in 1900. Although no census data exist for 1910 and 1920, the latter was the decade of the catastrophic flu epidemic, a fact reflected in the smaller population of 84

Table 4.6.1

HISTORICAL TRENDS IN POPULATION:  
PILOT POINT AND UGASHIK

	Pilot Point	Ugashik
1980	-	154
1900	-	348
1910	-	-
1920	-	-
1930	-	84
1940	114	55
1950	67	48
1960	61	36
1970	68	-
1980	72	13
1981*	78	29

\* The figures for 1981 derive from fieldwork for the present study. The summer population reflected in these figures is considerably larger than the year-round population, as discussed in the accompanying narrative.

Source: U.S. Census; Fieldnotes August 1981



in 1930. According to informants, the population at this time was largely non-Aleuts associated with the cannery as the Native population was decimated by the flu epidemic and the few survivors relocated in Pilot Point. After 1940, Ugashik continued to lose population steadily until, by 1970, it had fallen below 25 individuals. The 1980 census recorded 13 year-round residents at Ugashik while the census for the present study found 11 year-round and 18 summer-only residents in 1981.

Although historic census data for Pilot Point are much more limited, it is possible from informants' accounts to piece together certain major elements of the historic patterns. Pilot Point did not emerge as a settlement until the turn of the century and then only in response to the establishment of a salmon saltery. The population up to the flu epidemic of 1918-1919 was much smaller than that of neighboring Ugashik, probably not exceeding 50 individuals. The Aleut families that had settled in Pilot Point prior to 1918 were also badly effected by the flu epidemic that winter. Relocation of the remnant Ugashik population and the arrival of the Inupiaq reindeer herding families from the Port Moller area, where they had first settled, contributed to growth of the Pilot Point population during the 1920s. By 1940 the population of Pilot Point was 114; however, after that time it began to decline steadily as salmon cannery activity on the Ugashik River became increasingly limited. By 1960 the population had declined to its lowest level, 61 individuals, before starting a slow process of growth. The 1970 population equalled that of 1950, 68 individuals, while by 1980, 72 people made Pilot Point their home. In the census information gathered in 1981 for the present study, a summer population of 78 was recorded. Of these, however, an estimated 23 are summer-only residents.

In short, the historic trends of population growth and decline on the Ugashik River can be summarized in four phases. The establishment of cannery operations on the river in the final decades of the 19th century initiated a period of considerable population growth, especially in Ugashik. Secondly, the flu epidemic of 1918-1919 was a decisive event, for the total population of the river drainage dropped dramatically and Pilot Point emerged as the more important population center, a pattern of population distribution that has continued to the present. After 1940, as cannery operations on the entire river began to decline, the population also declined at a slow rate. And finally, during the 1970s, a pattern of seasonal population fluctuation emerged as varying proportions of both villages began to make their principal residences outside of the Bristol Bay region

and to return to the villages each year only for the salmon season.

Without more extensive historic census information it is difficult to deduce the relative importance of natural increase as against migration in the population dynamics of these villages. The general pattern suggested, however, is one in which the rise and fall of cannery operations have played a bigger role in population dynamics than have dynamics of fertility and mortality, with the notable exception of the drastic effects of the epidemic of 1918-1919.

More general patterns of population dynamics for rural Alaska can be used as a point of comparison in looking at the Pilot Point figures. First, the 1950s saw a jump in the birth rate as improved public health measures introduced throughout rural Alaska during this decade sharply suppressed infant mortality rates (Alonso and Rust 1976:6). The Pilot Point population declined during this decade although there is no definitive indication of rates of natural increase. A second general trend was increased urban-oriented migration during the 1960s with young women slightly more likely than young men to move to the urban centers of Anchorage, Fairbanks, and Juneau (Alonso and Rust 1976:6). The pattern in Pilot Point for the 1960s appears to correspond to this generalization although informants suggest that the decline of the cannery operations was the decisive factor in this trend, not the attraction of the city. Finally, the general pattern of population redistribution during the 1960 to 1970 period is one in which villages of less than 125 persons were more likely to decline and disappear, while larger villages continued to grow. This occurred despite the fact that the rural regions continue to lose some of the population growth to urban migration. Pilot Point is clearly too small to attract a level of services which would encourage more people to remain year-round residents, and this particular trend may accurately describe the village's future.

The emerging pattern of seasonal residence is clearly the single most important factor in the future trends of the Pilot Point population. The village may have already reached a point in which reduced population leads to reduced local services, in turn making the village less attractive for young families. While medical care in the village is thus far secure, the school is in a precarious situation. There has never been sufficient population to support a local high school and the high school-aged students must attend school in either Anchorage or Port Heiden. The elementary-aged population is now approaching the minimum of 12 students needed to remain open. If the student population should fall

below 12, families with school-age children will be under great pressure to move to Anchorage or Port Heiden for the school year. Alternatively, parents could teach their children by correspondence, as is presently done in Ugashik, where the school-aged population has been too small to justify a school program for many years.

The village is unlikely to be abandoned, since the lower limit of its population is established by the health of the salmon fishery. So long as the salmon fishery in the Ugashik River remains as strong as it is now, there is little chance of the village being abandoned. Nor is it likely that the families who presently make their major residence outside the village would discontinue their summer residence in Pilot Point. More likely, the health of the salmon fishery and the level of basic commercial and municipal services will provide sufficient incentive for a number of local families to remain in the village. It appears unlikely that the year-round population will drop off in the next few years and it is possible that new housing will provide the necessary incentive for some families with young children to remain in the village year-round. In other words, the population of Pilot Point may begin to grow again, although at a slow rate.

Population Structure: Age, Sex, Ethnicity, and Household Size. The single most striking feature of the current populations of both Pilot Point and Ugashik is marked seasonality. In Pilot Point the year-round population of 65 increases by 23 during the summer fishing season; in Ugashik the 11 year-round residents are joined by 18 summer-only residents. In both cases the summer-only people are families who were raised in the villages and have only recently made their principal residence outside. They retain a number of important links to the communities although it could be expected that over time the intensity of these relations will diminish. At present, though, these part-year residents remain very actively involved in the affairs of the village, including the decisions of the village corporations established under the Alaska Native Claims Settlement Act.

The Pilot Point population is considerably older than village populations in the Bristol Bay region as a whole and older than the population of Port Heiden, its neighbor within the study area. The median age for males is 24 while that of females is 22. In contrast, the median age for villages in Bristol Bay as a whole was only 16.5 in 1970 (Alonso and Rust 1976:17). The picture is even more dramatic if the mean, or average, age is used. The average age for men in Pilot Point is 29.7 while for women it is 25 years. Another indication of the relative age of the Pilot Point population is seen in the

population pyramid displayed in Table 4.6.2. The striking feature of this distribution is the extremely small number of children between 0 and four years of age. In contrast to the other villages in the study region in which prosperity of the fishery is reflected in a jump in the number of new babies, Pilot Point appears to have a declining birth rate.

No age information for the Ugashik population was available.

In Pilot Point, males outnumber females, but only very slightly, 41 to 38. In Ugashik, the sex ratio is also nearly even, with 15 males and 14 females. In Pilot Point, the summer-only residents are about equally divided between men and women: 13 to 10. In Ugashik, however, there is a slight tendency for males to be more likely than females to remain in the village year-round. Thus, the year-round population is made up of seven males and four females, while the summer-only population this year was eight males and ten females.

The ethnic composition of the Pilot Point population is predominantly Aleut, as Alaska Natives on the Alaska Peninsula designate themselves. Many of the surnames in Pilot Point are of northern European origin, a legacy of the cannery or fishery men who married local Aleut women early in the century and stayed to raise families. Information on ethnic background was available for 76 people, of these five were White, a proportion of 5.6% of the local population. There were formerly a number of Inupiaq Eskimo families but with the death of the last of these immigrants to the region, the Eskimo portion of the local population disappeared.

In Ugashik, all but one of the eight households present in the summer are headed by Aleuts.

The people of Pilot Point live in 19 households, for an average of 4.15 people per household. As shown in Table 4.6.3, there are only a handful of households with more than five members.

If summer-only residents were removed from this distribution, the effect would be to diminish slightly the average size of the households. The year-round population of 15 households contains 54 people for an average size of 3.6 persons per household. The condition of housing is generally good in Pilot Point, with a local entrepreneurially-oriented family having built a number of houses in the village in the past five years. A small number of houses, however, are in poor condition and repair is clearly needed.

Table 4.6.2

## PILOT POINT POPULATION BY AGE AND SEX, 1981

Males		Age	Females	
Summer Only	Year-round		Year-round	Summer Only
	1	65+	2	
	0	60-64	0	
2	1	55 - 59	0	2
1	1	50 - 54	0	
2	1	45 - 49	1	1
	2	40 - 44	2	
1	1	35 - 39	4	
	3	30 - 34	1	1
	2	25 - 29	3	
6	3	20 - 24	2	1
	4	15 - 19	1	4
1	4	10 - 14	4	1
	3	5 - 9	5	
	<u>2</u>	0 - 4	<u>3</u>	
<u>13</u>	28		28	10
	50%		50%	

Table 4.6.3

## PILOT POINT HOUSEHOLD SIZE, 1981

Household Size	Number of Cases	Total
1	0	0
2	6	12
3	2	6
4	4	16
5	4	20
6	1	6
7	1	7
8	0	0
9	0	0
10	0	0
11	0	0
12	1	12
Totals	<u>19</u>	<u>79</u>

Average persons per household: 4.16

In Ugashik, household size is somewhat smaller. The 29 summer residents of Ugashik live in eight households, for an average of 3.6 persons per household. In winter, four households containing 11 people remain in the village, for an average of 2.75 persons per household.

#### 4.6.3 Pilot Point-Ugashik Socioeconomic Organization

##### Fisheries: Commercial Harvesting

**General Overview: Strategies and Species.** The people of Pilot Point and Ugashik derive their economic livelihood almost entirely from participation in the salmon fishery. All gear operators use gillnets since seine gear is not permitted in the Bristol Bay area. Two strategies are found, one based on drift gillnetting from 32-foot boats and the other based on set gillnetting from shore sites, generally with the aid of a small skiff. A small number of gear operators (an average of 13% each year) land salmon using both of these methods. Drift gillnetting is the predominant strategy in these two villages, accounting for about two-thirds of all gear operators most years, while set gillnetting accounts for about 20%. Both strategies are oriented almost entirely to the Ugashik River. However, this river lacks significant king and silver salmon runs so a limited number of boats travel to Port Heiden in some years to fish the slightly more substantial Meshik River king salmon run, and a larger group regularly fish the Cinder River silver salmon run.

Only very rarely do Pilot Point or Ugashik fishermen participate in fisheries oriented toward other species. Only one individual regularly travels to the Togiak area for the May herring fishery, and there is no participation in the emerging bottomfishery. The size of the boats in these communities precludes any possibility of participation in the winter crab fishery.

The salmon season for the drift gillnet strategy gear operators starts in late May when the minor king salmon run arrives in the Ugashik River. Not all boats are in the water for this early run. Informants estimated that as many as one-fourth of the boats have not finished preparations in time, or else judge the run too small to merit their effort. The average king salmon harvest for the five-year period, 1975-1979, was less than 1,500 pounds. However, the much higher than normal 1979 harvest tends to inflate this figure.

By mid-June, the pulse of the community quickens in anticipation of the arrival of the red salmon run. All of the Pilot Point and Ugashik vessels are in the water and the Port

Heiden boats arrive. In recent years, June has also seen the arrival of a number of floating processors which anchor in Ugashik Bay. By July 20, the red run begins to show and the fishing begins, initially in a calm fashion, with the boats waiting turns to make a set in the most advantageous positions in the bay. In the 1979, 1980, and 1981 seasons, the runs were so strong that district registration requirements were waived by the Department of Fish and Game, permitting boats from further up the peninsula to fish the Ugashik run without waiting, following the earlier peak of the runs in both the Egegik and Naknek-Kvichak districts. The waiver resulted in a large number of boats from these communities arriving in Ugashik Bay for the latter portion of the run. Competition over the best sites increased and the system of taking turns was severely challenged each year. With the arrival of the Egegik and Naknek boats, then, the fishing becomes almost frenetic, until the peak of the run passes around the middle of July.

About one-fourth of the Pilot Point vessels pull out of the water after the red salmon run. The silver run on the Ugashik is too small to merit their attention and the closest silver run of any importance is found at the Cinder River, nearly half way to Port Heiden. In late August and early September, then, a handful of Pilot Point boats, occasionally joined by a vessel from Ugashik, proceed down to the Cinder River. The mouth of the river is fairly narrow with room for only a few boats and the distance from Pilot Point has meant long return trips to deliver fish most years. More recently, small planes have been used to transport fish to Pilot Point and one of the floating processors in 1981 considered tying up off the Cinder River for the silver run. This run peaks quickly and by the second week in September the vessels have returned to the communities. They are hauled out of the water at the old APA dock and stored in the large deserted warehouses of the former cannery.

While the patterns of the drift gillnet fishery are common to both Pilot Point and Ugashik, the set net strategies display an important difference. All of the set net fishing by Pilot Point residents takes place on the sandy beach in front of the village, from a point about one mile south of the village to Dago Creek located about two miles north of the village. As many as 20 set net sites are found along this beach. In Ugashik, set netting takes place on the pebble beach immediately in front of the village. Although this site is further upriver than set netting is normally permitted, arrangements were made early in this century for use of a small number of set net sites by the community at this upriver location. There are 11 such sites, although not all have been

used in recent years.

As with the drift gillnet operations, not all set nets are in the water in time for the king salmon runs of late May. As king salmon do not frequent the beaches, there is even less incentive for the set net operators than for the drift gillnetters. The major effort of the set netters is devoted to the red salmon runs from mid-June to mid-July. Most set nets are pulled for the season after the red salmon run peaks in mid-July, although a few of the set net sites in Ugashik village are used after this time.

Most set nets are picked from small skiffs during the high tide, particularly during the peak of the run. The few people without skiffs must pick their nets at low tide. A few people use a running line to pick their net. In this operation a line is attached to the offshore end of the net and run through a pulley anchored at the beach end. The line is then tied off on the beach. The operator can pull the net ashore to remove the fish, and then use the running line to replace the net in position. In this fashion the net can be picked and reset at high tide, without the use of a skiff.

**Limited Entry Permits.** Pilot Point and Ugashik residents own limited entry permits for Bristol Bay, area T. A total of 42 permits are owned in the two communities as of 1980. As shown in Table 4.6.4, there is a marked tendency for males to own drift gillnet permits and females set gillnet permits. This corresponds with the common pattern throughout Bristol Bay.

There are relatively few permit holders with multiple permits. Five permit holders in Pilot Point have both drift and set gillnet permits, while there are no multiple permit holders in Ugashik. As a result, there are few surplus permits available to younger people in the village entering the fishery and from information accounts, this is seen as a very significant problem in Pilot Point. In a very small number of instances, boat owners are without their own limited entry permits and are obliged to hire a permit holder as crew member. The share of the return paid to this crew member is much higher in view of the value of the permit.

The average purchase price of a Bristol Bay drift gillnet permit in 1981 was \$80,940 while the average price of a set gillnet permit was \$32,704. These prices are prohibitive for younger people seeking to enter the fishery and local residents in both villages were extremely interested to hear of the target loan program of the Commercial Fishery and Agricultural Bank (CFAB) operated by the State of Alaska.



Table 4.6.4

PILOT POINT-UGASHIK PATTERNS OF LIMITED ENTRY PERMIT HOLDINGS  
1980

Community	Drift Gillnet		Set Gillnet		Total	Average Permits per Holder
	Male	Female	Male	Female		
Pilot Point	15	1	7	6	31	1.19
Ugashik	5	0	2	4	11	1.00
Total	20	1	9	12	42	

Under this loan program, younger people who had worked in the fishery with a permit holder over the past few years would be given a priority in the evaluation of loan applications for the purchase of limited entry permits.

As with other communities, in Pilot Point there is a tendency for some lineages to be relatively permit-rich while others are permit-poor. This is presumably a result of permits having been transferred since, at the time the limited entry program was established in the early 1970s, all households had a roughly equal chance of obtaining permits. With 31 permits distributed across 19 households, the statistical average would be 1.6 permits per household. However, some lineages have been more successful at retaining permits than others--four lineages exceed this average while five are below it. The extremes are even more striking--one lineage averages 3.3 permits per household while another averages only .33 permits per household.

The issue is not a minor one as permits constitute a channel of differential access to the economic livelihood of the fishery, not only for the generation currently fishing, but in even greater degree for the generations now seeking to enter the fishery. Lineages with few permits will provide crew member laborers to lineages with many permits.

**Areas and Times Fished.** The salmon fishery on the Ugashik River is regulated as a district of the Bristol Bay area. The Ugashik District is defined by a line drawn from Cape Menshikof to approximately Cape Greig, thus encompassing the wide mouth of Ugashik Bay. The upriver extent of the district is defined by markers located just below the confluence of the Ugashik and the King Salmon rivers, at a point approximately midway between Pilot Point and Ugashik villages. The waters of Ugashik River proper are closed to harvest with the exception of a 1,000-foot segment of beach directly in front of Ugashik village where set netting is permitted.

The Cinder River section of the Northern District of the Alaska Peninsula Area is defined as the area from Cape Menshikof to Point Stroganoff, exclusive of the waters of Port Heiden Bay. It includes the Cinder River where a number of Pilot Point gear operators fish for silver salmon in late August and early September. The Cinder River section is essentially a buffer zone and, while it is located in the Alaska Peninsula area, Bristol Bay permit holders, i.e., the Pilot Point, Ugashik (and Port Heiden) drift gillnetters, are permitted to fish these waters before June 23 and after July 17, that is, outside of the emergency orders period

corresponding to the red salmon run in Ugashik Bay. In the Ugashik district the salmon fishing season is open from May 1 September 30, with weekly fishing periods from 9:00 a.m. Monday to 9:00 a.m. Saturday. From June 23 to July 17, however, the fishing periods are defined by emergency orders issued by the Department of Fish and Game. This period corresponds to the arrival of the major portion of the red run in the Ugashik River and this system of management is intended to closely monitor escapement levels. After July 17, the openings return to the weekly schedule practiced earlier in the season.

In the Cinder River section, the lagoon portion of the Cinder River itself is open from May 1 to September 30, while the outside portion of the section is open from August 1 to September 30. In both cases the weekly fishing period is from 6:00 a.m. Monday to 6:00 p.m. Thursday.

In the Ugashik district, gear specifications also change during the season, permitting the harvest of smaller fish in the Ugashik River after the major red salmon run has passed. The minimum gillnet mesh size defined as 5-3/8 inches up until July 20, after which mesh of no less than 4-1/2 inches may be used. In the Cinder River section, the minimum mesh size for gillnets is 5-1/4 inches throughout the open season.

A final regulatory provision which effects the deployment of fishing effort during the season is the registration requirement. In the Bristol Bay area, gear operators are required to register to fish a particular district with a particular gear type. Normally a change in registration requires 48 hours notice. The fisherman must wait for the 48 hours to elapse before recommencing. The registration requirement acts as an obstacle to sudden displacement of effort during the course of the run. Even if the fishermen in one river system hear that the run down the peninsula is coming in extremely strong, they would normally lose 48 hours of fishing time if they attempted to reregister for another district. The registration waiting period, however, can be waived, allowing boats to change districts at will. When the Ugashik has seen salmon runs which appear to exceed the harvest capacity of the local fleet, as was the case in 1979, 1980, and 1981, the Department of Fish and Game has waived the 48-hour waiting period in order to encourage boats from Egegik and Naknek to come down for a portion of the Ugashik season. As the bulk of the red salmon run arrives earlier in these rivers up the peninsula, fishermen from these communities are quite anxious to pick up a few extra days of fishing on the Ugashik.

In sum, the regulatory framework tends to divide the salmon season into three portions corresponding roughly to the king salmon run, the red salmon run (in which minor stocks of pink and dog salmon are found), and the late silver runs. Harvest early in the season, prior to the emergency orders period, is not so closely regulated since the effort deployed on the early king salmon run is not intense. In contrast, the effort devoted to fishing the Ugashik red salmon run is quite substantial and this portion of the season is closely regulated. After the bulk of the red salmon run is through, the regulatory system reverts to weekly openings for the harvest of the silver salmon runs.

**Fleet Characteristics.** The Pilot Point drift gillnet fleet consists of 15 vessels which, with one exception, are of wooden construction and generally are more than a decade old. There are three drift gillnet vessels in Ugashik, also of older wooden construction. All the vessels are 32 feet in length, the maximum allowed under Bristol Bay regulations. As noted in the age distribution of these vessels, shown in Table 4.6.5, the fleet has one new vessel, constructed in 1978 (made of fiberglass), while the others tend to cluster around 1971-1972 or 1957-1963. Interestingly, one "conversion" is still in use in Pilot Point. This vessel is a double-ended hull from the sail power era in Bristol Bay, to which an engine has been fitted. Of the 15 vessels for which ages are known, half were constructed before 1958.

Although these vessels are of wooden construction and relatively old in age, they are in excellent condition because they have always been stored indoors during the winter. The Alaska Packers Association facility at Pilot Point has not been used for active processing since 1958 and space has always been made available for vessel storage for the winter. At present, a storage fee is charge, reported as \$200 to \$500.

The approximate value of the vessels varies with age and state of repair so the following price figures are used as examples, not averages. All of the 1957 Commercial brand wooden vessels were sold by Alaska Packers Association to their operators in 1975 for \$6,000. In virtually all cases, considerable repair work, often including new engines, has since been done. In addition, new electronic equipment has been added, usually consisting of a CB radio and a depth finder. One 1957 Commercial resold for \$22,500 in 1979, and a 1961 Commercial was advertised in Pilot Point in 1981 for \$20,000. In contrast to these prices for older used wooden boats, a 1981 American Commercial vessel, constructed of fiberglass and containing about twice the hold capacity of the older vessels, reportedly cost \$93,000 new.

Table 4.6.5

## PILOT POINT-UGASHIK FISHING VESSEL AGE, 1981

<u>Year of Construction</u>	<u>Number of Boats</u>	<u>Community</u>
1978	1	PP
1972	1	PP
1971	2	PP
1965	1	UG
1963	1	PP
1961	1	PP
1957	5	PP
1952	1	UG
1930	1	PP
	14	PP - 12 UG - 2

Age unknown for 4 vessels.

Total vessels: 18

While only a single boat has been added to this fleet since 1978, plans were underway for several new purchases in 1981. One new fiberglass boat was expected to join the Pilot Point fleet before the end of the 1981 season, and several individuals were contemplating purchases for the following season. In addition, as will be discussed below, the Village Corporation was considering plans to subsidize the purchase of new vessels by shareholders.

Approximately half of the Pilot Point and Ugashik set net sites are worked with 12- to 14-foot skiffs. Two sites in Pilot Point and two in Ugashik are worked with newer 20-foot aluminum skiffs, for a total of approximately 14 skiffs between the two communities.

In sum, the Pilot Point-Ugashik fleet is generally older than those elsewhere in the Alaska Peninsula study area, but superior storage facilities have contributed to an excellent state of condition. Only in 1981, after three extraordinarily productive years of red salmon runs on the Ugashik River, is this fleet on the verge of upgrading. Within the next two years this fleet will include a fair proportion of newer vessels.

**Vessel Economics.** In addition to the cost of the vessel, there are several types of operating costs which must be deducted from gross revenues to derive an accurate picture of the return to individual gear operators. Fuel and food are operating expenses for which no estimates were made available.

The costs of a minimum set of gillnet gear is not high. Fifty fathoms of unhung web can be purchased for \$300 although several hours of labor is then required to attach the cork and lead lines to the web. Gillnets which come already hung are available for \$800 to \$900 for 50 fathoms. As set netters are permitted two shackles (100 fathoms of gear), and drift gillnetters are permitted three, these costs can become substantial if hung nets are purchased. In addition, many operators own gillnets of different mesh sizes for use with different species of salmon. Some operators own as much as six shackles of each of three different mesh sizes although, in this case, it is likely that equipment was being purchased as a tax shelter.

The final major category of operating expenses to be considered is crew wages, known as shares. The system of crew shares shows considerable variation from one vessel to another within the same community although there is enough comparability between them that crew members can readily

designate particular captains as generous or stingy. Single crew members aboard a drift gillnet vessel receive between 25% and 35% of the boat's income while each member of a two-member crew generally receives 15%, although an experienced hand might receive as much as 25%.

The situation of crew shares is complicated by the fact that some boat owners do not possess limited entry permits and must find a permit owner to work on the boat in return for a much larger share of the boat's income. From the few anecdotal accounts given of such operations, it appears that the permit itself is worth a 10% to 15% increase in the share received. Also quite rare is the situation in which a permit holder operates a vessel which he does not own. In this case a share of approximately 25% is paid to the actual owner of the boat as rent.

The expenses incurred in operating a set net are considerably less than those on drift gillnet boats. Less equipment is used and no fuel expenses are incurred. Set net operations are usually family operations in both these communities and no information was made available concerning the crew shares paid to a person who assists a set net operator.

For the purposes of an overview of the relationship between gross income and net revenue to individual gear operators, Table 4.6.6 displays average revenues and estimated costs for Bristol Bay set net and drift gillnet operators from 1975 through 1979. The average drift gillnet crew share of 31.7% cited in Table 4.6.6 is within the order of magnitude suggested by the field note data when the number of single and two-member crews is factored in. The 20% figure for crew shares on set net sites appears entirely reasonable.

Taking 1979 as the example case most likely to reflect current operating costs, the data in Table 4.6.6 suggest that drift gillnet operators retain about 21% of the gross revenues of their vessels while set net operators retain a higher percentage, 44%, of their considerably smaller gross income.

**Crew Composition.** In addition to that portion of the Pilot Point-Ugashik population involved in the fishery as gear operators, a substantial number of people serve as crew members on the boats and at the set net sites. What proportion of the total salmon crew labor force is made up of local residents and to what degree do family relations organize crew composition?

On the Pilot Point drift gillnet vessels a two-person

Table 4.6.6

ESTIMATES OF BRISTOL BAY SALMON FISHERIES  
GROSS EARNINGS, COSTS, AND NET EARNINGS  
1975, 1976, 1977, 1979

Permit Type	1975	1976	1977	1979	
				Bristol Bay Resident Fishermen	All Fishermen
<b>Drift Gillnet</b>					
Average Gross	7720	13150	16628	52147	71696
Costs <sup>1</sup>	4025	5673	6557	NA	NA
Net Earnings	3695	7477	10071	23480	30372
Crew Share (31.7% of gross for 1975, 1976, 1977 only)	2449	4172	5275	NA	NA
Return to Operator	1246	3305	4796	11002	16620
<b>Set Gillnet</b>					
Average Gross	2113	3628	4782	14724	16493
Costs <sup>1</sup>	2993	3557	3913	NA	NA
Net Earnings	-880	125	869	6833	8191
Crew Share (21.6% of gross for 1975, 1976, 1977 only)	456	782	1031	NA	NA
Return to Operator	-1336	-657	-162	6468	6706

<sup>1</sup> Operating, Fixed, and Capital Costs

Sources: Rogers and Kreinheder 1981; Baker and Muse 1979; Larson 1979



crew, in addition to the boat operator, is the most common arrangement although single-person crews are fairly frequent and occasionally a three-person crew is found. In 1981, with reports for about 75% of the fleet, two-person crews were found on 64% of the vessels while in 1980, 50% had crews of this size.

Local residents consistently make up approximately half the total number of crew members engaged on Pilot Point vessels. The proportion of crew members related to the boat operator (as consanguineal kin) appears to vary more widely. In 1981, boat owners' kin group members made up 13% of the total crew member population while in 1980 the comparable figure was 27%. The non-local half of the total crew member population is divided between persons from neighboring villages and people from outside the region altogether. In virtually all cases, these crew members are known to the boat operator before coming to work in Pilot Point.

Women make up an important proportion of the crew population on the drift gillnet boats, 17% in 1981 and 23% in 1980. This pattern is unusual by comparison to other communities in the study area.

Crew members appear to work for the same vessel operators for several seasons with a greater tendency in this regard by local residents as opposed to crew members from outside the region. Disputes and changes of crew mid-season are not unknown and some captains are particularly prone to replace crews during the season each year.

Equivalent information was not available concerning the assistants at set net sites but several important features of this pattern can be identified, nonetheless. The set net fishery at Pilot Point is predominantly in the hands of women--71% of the set net permits in this community are owned by women. From the few cases known, it appears that virtually all assistants at set net sites are local residents and that the most common pattern is for daughters to help their mothers in the operation of the site.

In sum, it appears that all available local residents (those without boats or permits) work as crew members or assistants in the salmon fishery. The surprisingly high proportion of non-local crew members aboard the drift gillnet vessels results from the fact that the small Pilot Point population cannot provide a higher proportion of the total crew population. Of those non-local crew members, virtually all are friends of the families of the gear operators. The rise of seasonal residence outside the village has greatly

contributed to this pattern.

Landings and Earnings. Since the very poor seasons of 1974 and 1975, Pilot Point and Ugashik fishermen have seen generally rising levels of salmon harvest, with 1979 ushering in three extraordinarily productive seasons. Total harvest and earnings for both communities combined during the period from 1975 to 1979 are shown in Table 4.6.7. While the period as a whole has seen an increase of 440% in landings and 1,136% in earnings, the rate of increase has not been steady. The 1976 season saw significant growth over the 1975 season, but 1977 and 1978 saw declines relative to 1976. The final season in this series, 1979, saw a very dramatic jump in both landings and earnings--3.6 times the 1978 harvest brought 5.1 times the earnings. From these figures it is apparent that overall harvest has generally been growing, and growth in earnings has been even greater as a result of the fact that prices paid for salmon have risen very steadily over the period under discussion.

The number of participants has fluctuated between 22 and 29 per year, seemingly in relation to the strength of the salmon return. Better seasons have seen more participants, with an overall average of 25.6 gear operators each year.

The trends in landings and earnings for the community as a whole obscure the fact that the two different gear types share unequally in the benefits of the salmon harvest. In Table 4.6.8, the average landings and earnings of individual gear operators, broken down by gear types, are shown. The small number of operators combining both set and drift gillnetting follow the landings and earnings pattern of the drift gillnetters, and so will not be discussed separately.

Taking first the case of the drift gillnetters, the level of participation over the five years under consideration has remained constant or dropped slightly. The trend in landings parallels that of the community as a whole--a tremendous net increase in landings over the five years from an average of 17,564 pounds per operator in 1975 to 62,030 pounds average in 1979. This constitutes an increase of 353%. Within the five years, however, the rate of growth was not constant. 1975 saw improvement over the dismal 1975 season but landings then declined for two years until the 1979 season brought a truly remarkable leap in the productivity of the river. The average harvest in 1979 was just over three times that in 1978 for the drift gillnet operators.

Drift gillnet operator earnings also improved considerably over the five-year period from an average of

Table 4.6.7

PILOT POINT-UGASHIK TOTAL SALMON LANDINGS AND GROSS EARNINGS  
1975 - 1979

	1975	1976	1977	1978	1979	Average
Number of Gear Operators	25	29	25	22	27	25.6
Total Landings (1,000 pounds)	307	702	576	377	1353	663
Total Earnings	121	343	346	267	1375	490.4

Table 4.6.8

## PILOT POINT-UGASHIK FISHERMEN'S AVERAGE SALMON LANDINGS AND GROSS EARNINGS BY GEAR TYPE, 1975-1979

Gear Type <sup>1</sup>	1975	1976	1977	1978	1979	Average
Type IV: DG, SG						
Gear Operators	(2)	(6)	(4)	(1)	(6)	(3.8)
Average Landings (lbs.)	16,914	25,872	22,708	40,047	57,929	32,695
Average Earnings	\$ 6,723	\$ 12,406	\$ 13,502	\$ 26,567	\$ 52,103	\$ 22,260
Type VI: DG						
Gear Operators	(15)	(18)	(20)	(16)	(14)	(16.6)
Average Landings (lbs.)	17,564	28,710	22,890	19,494	62,030	30,438
Average Earnings	\$ 6,938	\$ 14,140	\$ 15,121	\$ 14,297	\$ 63,064	\$ 22,712
Type VII: SG						
Gear Operators	(8)	(6)	(2)	(5)	(7)	(5.6)
Average Landings (lbs.)	1,244	5,042	3,768	3,162	30,425	8,726
Average Earnings	\$ 491	\$ 2,895	\$ 2,257	\$ 2,228	\$ 30,968	\$ 7,768

<sup>1</sup> DG - Drift Gillnet  
SG - Set Gillnet

\$6,938 in 1975 to an average of \$63,064 in 1979, an increase of 908%. As with landings, the growth was not consistent over the period under consideration.

The overall growth in the landings and earnings of the set net operators is even more striking than that of the drift gillnetters, considering the level at which most of these operators commenced the period discussed. Average individual landings in 1979 were 24 times those of 1975, while earnings were 63 times greater. Two factors serve to heighten this contrast. The 1975 season was the last of the years of extremely poor harvest throughout Bristol Bay while 1979 ushered in several years of extraordinarily productive harvests. The comparison between these two years in particular is thus much sharper than would be the case for any other five-year period. Even more than was the case for the drift gillnetters, the 1979 season made up the vast bulk of the growth experienced over the entire period. The growth from 1978 to 1979 was 1,389% in earnings and 962% in landings.

A final consideration emerges from these figures contrasting the trends in performance of drift and set gillnet operators. From the figures displayed, it is clear that the drift gillnet operations are of a considerably greater scale. Over the five years, as a whole, drift gillnetters average nearly 3.5 times the landings and 2.9 times the earnings of the set gillnet operators. In most years the differential was much higher; only the exceptional set net performance in 1979 generated the average magnitude of difference.

#### Development trends

Vessels. Perhaps the most striking feature of the Pilot Point-Ugashik fleet over the past few years is the fact that virtually no new vessels have been brought in, despite the prosperity of the fishery. This contrasts, of course, with the pattern in neighboring Port Heiden and in most of the other villages within the study area. As noted, the simple explanation for this contrast lies in the superior state of repair of the Pilot Point vessels in particular as a result of covered winter storage in the APA buildings.

Another factor contributing to the delay in upgrading the fleet is the uncertainty over the 32-foot limit on the size of Bristol Bay gillnet vessels. Virtually all Pilot Point fishermen object to this limitation and several think it will soon be repealed. They do not want to purchase new 32-foot boats only to find that this regulation has changed.

The fleet is, however, at a turning point and several new vessels will be added in the next year. Whether or not the Pilot Point Native Corporation finances the new purchases, it is clear that a number of captains will be in new vessels in 1982.

Areas. With the recent health of the salmon runs on the Ugashik River system, local residents have returned to the long-established pattern of a fishery almost exclusively oriented toward this river. With harvest at present levels, it is unlikely that additional effort will be devoted to the Cinder River silver salmon run although improved access to processors might modify this prognosis. Similarly, it is unlikely that additional effort will be devoted to the trip to the Meshik River to harvest the king salmon run.

Gear. There has been virtually no change in the gillnets used by either the drift gillnetters or the set gillnetters. As the regulatory limits on the gillnets and vessels are intended to control the rate of harvest, it is unlikely that they will be changed in a fishery of such intensity as that in Bristol Bay.

Permits. The few multiple permit holders in these two communities have most likely been fishing their drift gillnet permits more intensively. It is possible that they will sell the set net permit in the next few years. Thus, while the number of gear operators might expand, it is unlikely that this will result in any additional boats in the villages.

The permit situation in Pilot Point is very urgent in several cases. There are at least two vessel owners in the village who do not own limited entry permits. As a result, they must hire a permit holder aboard their vessel as a partner, much to their chagrin. A number of people in the villages expressed interest in a target loan program which is intended to assist local, experienced fishermen and women in purchasing limited entry permits.

On the other hand, a pattern is emerging in which non-local residents, who have purchased set net permits elsewhere in Bristol Bay, make Ugashik Bay their base of operations. In both 1980 and 1981, two sites were operated under these conditions. In both instances, the set net sites were operated in conjunction with a fly-out fish buying operation also established by a non-local group.

Species. The Pilot Point-Ugashik fishery is, at present, almost exclusively oriented toward salmon. There is little on the horizon to suggest a change in this state of affairs.

However, there have been changes over the past five years in the attention paid to the less important king and silver runs. Historically, the canneries concentrated exclusively on the major red salmon run. The local fish buying company, established several years ago in Pilot Point, turned greater attention to these other species by providing a ready market. Greater access to buyers at Cinder River, through a floating processor or expanded flying operations, would continue this trend.

Sum. The major dynamic in the fishery for these two villages has been a process of area concentration. The fishery has seen little expansion into other areas and, to date, little intensification of production through more efficient gear. Under current conditions of prosperity in the Ugashik River salmon fishery, there has simply been little need or incentive to diversify or upgrade technology. A decline in the strength of the Ugashik runs, such as that experienced in the early 1970s would presumably encourage a new and wider ranging adaptation.

#### Fishing: Commercial Processing

History. Historically, the Ugashik River has been the site of substantial shore-based cannery operations. Both present day Pilot Point and Ugashik have seen major cannery installations, dating back to the turn of the 20th century. Salteries were established at both settlements in the 1880s and, in 1895, the Alaska Packers Association, which was to become the major processor on this river, acquired its first facilities at Pilot Point. During the 1940s the Red Salmon Cannery was established at Ugashik, bringing operations up to a high level in both settlements. By the late 1950s, the cannery era was in decline on this river system; the Ugashik facility was sold to APA in 1956 and last used in 1958, the same year that processing operations ended at the Pilot Point facility. Since that time APA has continued to buy fish on the Ugashik using its Pilot Point facility as a buying station.

The 1960s saw a diminishing role for the traditional cannery companies represented on the Ugashik. APA sold its vessels to the men who had operated them over the years and sold its store operation to a local resident and former employee.

Current Operations. Among the processing operations currently conducted on the Ugashik River, three types can be distinguished: small scale freezing and fly-out operations, floater-processors operating in Ugashik Bay, and a

cottage-industry glass-pack cannery operating in Ugashik. One other outlet for sales of fish is significant although no local processing is performed on fish sold through this channel. The canneries from elsewhere in Bristol Bay send tenders to Ugashik Bay to buy fish, in some instances, on the basis of long-term commitments between the cannery and the individual fishermen.

The freezing and fly-out operations are a relatively new innovation in Pilot Point. In 1975 a local man started a company to purchase king and silver salmon, species which the traditional canneries did not generally purchase because of their focus on the more significant red salmon run. Griechen Fish Company then froze the salmon "in the round" with a small scale freezer plant and shipped them to Anchorage for sale in the fresh-frozen market.

During the early years of operation, this company processed nearly 100,000 pounds annually. By 1979, however, the operation had expanded considerably. Facilities then included a 10,000 pound capacity blast freezer and a 200,000 pound capacity holding freezer. That year a processing crew of 35 people, all from Anchorage, dressed and froze 700,000 pounds of salmon. The following year, 1980, saw production of 600,000 pounds using a much smaller crew of eight people.

Despite the rapid growth and seeming potential of this small company, severe problems in obtaining payment for the fish delivered forced it to abandon operations in 1981, leaving a number of unpaid debts with local fishermen. During 1981 the Griechen Fish Company equipment and facilities were up for sale or lease.

A similar operation, run by the Seattle-based Oregon-Alaska Fish Company, began purchasing fish in Pilot Point in 1980. The partners in this company had obtained a set net permit for the Bristol Bay region and during the first year of operation 75% of their fish came from the set net site operated with this permit. About 80,000 pounds of salmon were iced and flown to King Salmon aboard DC-3s and on to Homer for further processing. The fish were then sold in the Seattle fresh-frozen market. The entire operation, including the people operating the set net, included seven people. The returns were significant enough to encourage the partners to undertake a substantially larger operation in 1981.

In 1981 the Oregon-Alaska Fish Company leased facilities in Pilot Point from the Alaska Packers Association and began buying on a much larger scale. A private DC-3 operator had been engaged to provide full-time transshipment. Two sites



were being operated this year by non-locals who had recently purchased permits and they, along with a few local people, had agreed to sell fish to this company. In contrast to their first season, Oregon-Alaska intended to process salmon on site this year. A processing line was set up in the leased cannery building manned by a crew of 33 Vietnamese refugees hired in Seattle.

Preparations had been made, then, for a much larger scale of operations in 1981, but ten days into the red run, disaster struck. The DC-3 engaged to fly fish for Oregon-Alaska crashed in the bay just in front of the village, apparently as a result of over-loading. While new shipping arrangements were possible, the local processing of the fish was cut back. The crew was reduced to 13 and their role reduced to icing the fish for shipment to King Salmon, rather like the operation of the preceding year.

The 1981 red salmon season saw Oregon-Alaska purchase and ship 530,000 pounds of fish and, late in the summer, plans were being made to purchase silver salmon for the first time. In mid-August, the Oregon-Alaska processing crew left for King Salmon, only to arrive back in Pilot Point three days later aboard a floating processing vessel which the company leased for the silver season. Oregon-Alaska had also made arrangements with a King Salmon-based charter service for two Cessnas to ferry fish from the Cinder River to Pilot Point for processing aboard the Moku. Unfortunately, it was not possible to learn how this operation ended the season. If it was successful, it could encourage a more regular harvest of the Cinder River silver run since access to buyers has been a constraint on the level of participation in that fishery.

Another relatively new development in the processing side of the Ugashik River fishery is the sudden increase in the number of floating processors and cash buyers operating in the bay during the red salmon run. Although the figures were not broken down between cash buying tenders and cash buying floating processors, informants referred to 37 vessels of both types combined during 1981. Several of the floaters were very large scale operations, one of which used to come to Pilot Point many years ago but was returning in 1981 for the first time. A number of the floaters were smaller outfits, using crews of less than ten people and generally operated by their owner. In one case a smaller vessel of this sort was visited. This was refitted WWII era vessel now carrying brine and blast freezers capable of processing 15 tons of fish in 24 hours at maximum production. Usually it processes 10 tons in a 24-hour period. A total processing crew of six works two shifts to keep the equipment running full time during the peak of the

run, provided that sufficient fish can be purchased.

Perhaps the most novel of the current processing operations on the Ugashik River is the Briggs-Way Company in Ugashik. Founded in the early 1960s by a family which had moved to Ugashik essentially as homesteaders, this cottage industry-style cannery packs salmon in glass jars for sale by mail order. In earlier years, Mason jars were used to can the production of this family's set net site in front of the village. More recently a remarkable combination of purchased and home-manufactured equipment, including a steam retort, permit larger scale production. The fish processed are still from the family's set net site although now the Briggs sell red salmon during the height of the run to the commercial buyers like the other residents of the village, using only the early and late season fish for their processing operation. They have also added two teenage employees to the current operation, generally the sons of people who have been ordering salmon through the mail from Briggs-Way for years.

The production of this small cottage industry has reached a fairly high level in the last two seasons. In 1980, 3,600 cases of small jars were produced, representing approximately 7,200 fish. In 1981, 4,000 cases were anticipated. The value of this production was between \$60,000 and \$70,000, based on the price charged per case.

Although these novel operations are interesting and, in the case of the floaters and cash buyers, represent a major new force in the buying-processing side of this fishery, the bulk of sales on the Ugashik continue to be made to the tenders of Bristol Bay canneries. The Pilot Point Village Corporation is part-owner of the Diamond E cannery in Egegik and so all shareholders are committed, in principle, to sell their fish to the Diamond E tenders. There is a certain dissatisfaction with this arrangement for two reasons. Cannery prices are lower than those of the fresh-frozen market oriented cash buyers. This is a reflection of a different demand in the market for canned as against frozen salmon. Secondly, the canneries normally hold back a certain portion of the fishermen's payments until later in the fall when the final market prices for the year's pack are known. The fishermen then receive a "fall settlement" including any bonuses due as a result of improved prices in the marketplace. The canneries, in return for longer term commitments from their fishermen, provide services, particularly in the form of readily available spare parts and repairs. They expect their fishermen not to sell to the cash buyers. If, as is occurring at present in Pilot Point, a fisherman committed to a cannery begins to sell to cash buyers, the cannery will refuse to make

any further purchases from that individual.

Employment Patterns and Working Conditions. All but the tendering operation noted above employ a workforce in the Ugashik district. The Oregon-Alaska Company operation maintained a processing crew of 13 in Pilot Point throughout the season, down from a crew of 33 which originally came to the site. The crew members were all new to this operation although several of the young men spoke of having fished in Vietnam prior to coming to the U.S. and of hoping to eventually purchase a boat to enter the fishery in the Seattle area. The young men were housed in one of the old bunkhouse buildings with cooking and eating facilities in an adjacent room. One of the men who had experience in processing operations acted as foreman for the crew and a cook was hired to provide the meals. The processing crew received a minimum of \$880 per month on top of room, board, and transportation back to Seattle at the end of the season. The processors were entitled to an hourly wage in the event that more work became available, in which case their earnings would easily exceed the guaranteed minimum.

The conditions of work were not considered onerous by the processing crew members themselves. Several noted that they had few prospects of working in the Seattle area. As the season unfolded, the processing crew was left with a great deal of leisure time, particularly between the runs of various salmon species. These young men with free time and modest expectations for wages became a cheap labor force for errands and distasteful jobs in the village. Basements were cleaned out and vessels were scraped down and cleaned prior to storage for the off-season. Several residents commented on the essentially exploitive nature of these small jobs.

The two young men hired to work at the Briggs-Way Company in Ugashik were from Anchorage in one case and the lower-48 in the other. Both were hired as a result of correspondence between their parents and the Briggs over many years. They worked hard, both on the set net and in the small cannery plant. They were offered a salary of \$1,000 per month with a bonus at the end of the season and anticipated ending the summer with earnings of as much as \$8,000. There is little carryover from one year to the other for these positions; normally the young people only work a single season in Ugashik.

On the floating processor, a processing crew of six and a cook kept the operation under way, working long shifts during the peak of the season. The conditions are considered difficult, not because of the work itself, but because of the

isolation aboard the ship. The current processing staff was made up of college-age young adults hired in Seattle. There was considerable turnover among the processing staff, not only from year to year, but even within the same fishing season. Processing employees were paid \$1,000 per month without deductions for room and board, received airfare to and from the point of hire if they stayed for three months, and received a bonus if they could "stick it out" for the entire season.

Community-Processor Relations. While little information was available regarding the historic relations between the canneries and the host communities, from the few anecdotes discussed it appears that the relations were generally cordial between the cannery managers and the communities. Several residents noted the importance of efforts by the cannery to stem the effects of the flu epidemic in 1918-1919. And even today, when occasion arises to have recourse to the APA management in Seattle, people in Pilot Point noted that they have had a cordial and responsive reception. Thus, here as elsewhere, the personal stature of the cannery manager in the eyes of the local people and his personal responsiveness to their concerns, appear to be the keys to a positive climate between the cannery and the community.

Relations between local people and the newly-established Oregon-Alaska Company operation in Pilot Point have occasionally been more strained. The original establishment of the company in Pilot Point was viewed with some suspicion, especially since it competed directly with a locally-operated company during the first year. Problems arose, too, over the allegation that some of the people involved with Oregon-Alaska were encouraging gambling and selling drugs in the village. During the second year of operation, a complaint arose that Oregon-Alaska was not taking sufficient care in disposal of the cannery effluent and that bears were being attracted to the beach in front of the village as a result. In both instances, contact with the managers of the Oregon-Alaska Company did not produce a satisfactory resolution so inquiries were made to higher-level people at APA, which held the lease under which Oregon-Alaska operated in Pilot Point. The issues were quickly resolved through this channel.

Developmental Trends. The preceding discussion suggests several important developmental trends in the processing side of the Ugashik River fishery. The first refers to the historic decline of the traditional canneries on this river, and the current difficulties faced by the canneries purchasing with tenders in Ugashik Bay. A number of factors contributed to this trend, most recently the competition from cash buyers

and floating processors oriented toward the fresh-frozen market.

The second developmental trend, then, is the challenge represented by the rise of the fresh-frozen market. It is as yet unclear the degree to which the new cash buyers and floating processors will raid the canneries' fishing fleets over the long run, but it is likely that a major restructuring is underway. Buyers oriented to the fresh-frozen market can simply afford considerably higher prices to fishermen. Their market is still expanding while the demand for canned salmon is relatively stable, if not in decline.

From information offered by the co-owner operator of one of the small-scale floater-processors, it is clear that this segment of the processing sector is actually in a precarious financial state, largely because of the extraordinary sums of up-front cash required to buy fish at competitive prices on the grounds. A major debt burden is entailed in paying cash for the fish, months before accounts for the sale of processed fish will be settled. In many instances this has forced smaller scale operators to turn to co-ventures with large Japanese fish buying firms. These operator-entrepreneurs fear that co-ventures and significant Japanese financial participation will destroy the autonomy of the small companies and render them susceptible to price manipulation by the larger foreign interests.

The trends, then, are toward a major restructuring of the processing sector. The traditional side of the processing sector, namely the shore-based canneries, will continue to lose a portion of their share of fishermen's sales. The innovative operations which arose in Pilot Point in the late 1970s will continue to do well because of their orientation to newer, expanding markets. Finally, the rise of cash buyers and large-scale floater-processors oriented to the fresh-frozen market will probably continue up to a certain threshold, continuing to grow at the expense of the traditional canneries. It seems likely that the canneries will shift their resources and energies more and more to the fresh-frozen market.

#### Other Economic Activity

Government. Public sector employment is quite limited in Pilot Point and absent altogether in Ugashik. Pilot Point is not incorporated and the Village Council operates as the local government as well as the tribal government. There are no regular employees of the council although the secretary is paid on an hourly basis for his work on council business. The

village hires a small number of miscellaneous laborers to attend to road maintenance obligations. The only full-time public sector jobs in the village are the postmaster position under the U.S. Postal Service and the Village Health Aide position funded by the Bristol Bay Area Health Corporation.

Education. The Lake and Peninsula School district employs three local residents on a full-time basis during the school year and for reduced hours during the summer. These positions include a janitor, cook, and preschool aide for the Pilot Point School, a K-6 program currently serving less than a dozen students. The school teacher is from outside the village.

Private Business. The Pilot Point Trading Company is the largest private, non-fishery enterprise in the two villages. This company was established in 1974 when the Alaska Packers Association decided to close down its commercial store in Pilot Point, including its electrical generator. A local resident who had worked for the store for many years purchased the enterprise and founded the Trading Company. With an annual volume of roughly \$170,000 in sales, the Trading Company's operation reflects the curious combination of private and public responsibilities held by the cannery store. In addition to selling food and hardware, the Pilot Point Trading Company sells fuel and operates the only electrical generator in the village.

The Trading Company currently operates a large store in the old cannery building, stocking a fairly wide array of foods. Many of the boats in Ugashik Bay for the red run make their purchases here, so the selection is wider than expected for a village of this size. A moderate selection of hardware items is available and the Trading Company is a sales outlet for outboard engines and snow machines.

Fuels sold include aviation gas, automobile gas, blazo, and kerosene in the combined amount of about 6,500 gallons per year as of 1981. Most residents buy and store their own home heating oil but the Trading Company sells an average of 1,000 gallons of this fuel per year as well.

The most burdensome of the operations, in the view of the owner, is the generation of electricity. When the Trading Company took over this service in 1974, it continued to use the cannery generator for several years. By 1981, however, a smaller and much more efficient generator was in operation, providing 90 kw with a smaller backup unit of 55 kw. The storage of fuel for the generator has been a problem although the Trading Company has been able to lease tanks from the

Alaska Packers Association. Even with storage, though, the fuel must be purchased in advance, tying up the bulk of the company's money each year. About three-fourths of the homes in the village are hooked into the generator; they are charged a flat fee of \$75 per month year round, with a supplementary charge assessed to those homes with a greater number of electric appliances. The current generating capacity meets demand--but just barely. A larger generator will surely be needed soon.

The Pilot Point Trading Company is operated as a family enterprise although during the summer two clerks are hired to help. These positions employ four or five people over the summer.

The operation of the Trading Company will be changing soon. The store will move to a new building in the center of town, construction of which began in August 1981. With about 3,200 square feet of floor space plus a full basement, this new store will be more accessible and more fuel efficient than the older building.

Equally significant is the fact that the Village Council began to share responsibility for the electrical service for the first time in 1981. The village will advance the money required to purchase the year's fuel, selling it throughout the year to the Pilot Point Trading Company for use in the generator. The village has also begun to seek funds for a new generator which would upgrade the present capacity. A novel plan under discussion would see the new generator located adjacent to the Fire Hall for which funds have recently been obtained. The waste heat from the generator would then be used to heat the Fire Hall.

There are other miscellaneous private business ventures involving Pilot Point residents. Two people are involved with Peninsula Airways, a large flying service based in King Salmon and Cold Bay. The president of the company lives in the village as does one of the winter season pilots. The company has 30 to 50 employees, depending on the season, services 12 villages on the Alaska Peninsula and the Aleutian Chain, and generates gross annual receipts on the order of \$3 million. Only a minor portion of this returns to Pilot Point in the form of earnings to local residents.

A much smaller air taxi is operated out of Pilot Point. Griechen Air Taxi provides flying services to hunters coming to the Pilot Point area for moose and caribou in the fall. This company has two employees, one based in Pilot Point and one in Naknek.

Finally, fur trapping has, in the past, constituted a significant economic activity in Pilot Point and Ugashik. As recently as 1978-1979, a handful of residents earned an average of about \$1,500 each from fur trapping. In 1980-1981, three Pilot Point residents trapped beaver with a total harvest of 49 animals between them. Although other fur bearing species are trapped, records are not kept of these harvests.

#### Subsistence

Despite the recent prosperity of the salmon fishery, local production of foods remains a very important activity, particularly for those families who do not own drift gillnet permits and vessels. The single most important species by food weight produced in Pilot Point is caribou. The Alaska Peninsula herd migrates twice annually through the broken tundra immediately behind the village. This herd is quite healthy, perhaps the only caribou herd in Alaska which is not threatened at present. Most families harvest five caribou per year, about equally split between the spring and the fall migrations. Sharing of caribou meat is widespread and several are taken each year to be given to the older people of the village who are no longer capable of hunting for themselves.

Salmon and other fish are the next most important species by foodweight produced. Informants consistently estimated that the annual subsistence harvest in their family was about 50 fish. This included seal-bitten fish from the set nets and was primarily made up of species other than red salmon. One older couple acknowledged to be more dependent upon subsistence foods than most and continues to process as many as 200 fish each year for use in their home. Fish are preserved by drying, smoking, and freezing, with freezing the most prevalent method today.

Fishing for smelt in mid-winter through the ice is another highly productive subsistence activity. The favored site is located about half way up the river to Ugashik where the ice is more stable. A large number of people go out together and this is seen as a form of community recreation in the winter. Smelt are easily harvested in large quantities, so it does not take many outings to produce all the smelt that can be eaten. One person ventured the estimate that a family might take as many as 300 smelt per year, but people do not normally count fish of such small size. Smelt are prepared by frying and boiling; several people mentioned that boiled smelt with seal oil was an especially favored manner of preparation.



Despite the reference to seal oil in the context of smelt preparation, there was no mention of anyone having harvested seal on a regular basis in the past few years. Apparently seals are taken very irregularly and are preferred only by a few families.

Waterfowl constitutes another major source of subsistence food. Important migrations take place in the Pilot Point region in both the spring and the fall. A favored site for waterfowl hunting is located just opposite the village on the southwest side of Ugashik Bay. Geese, ducks, and cranes are taken, with ducks making up the bulk of the harvest. It was unclear whether the spring or the fall migration was more extensively harvested.

Although a number of wild vegetable food sources were formerly exploited, this is limited now to berries. Berry picking is a family activity and large quantities of mossberries and blueberries are taken late in the summer on the tundra behind the village. As is common in rural Alaska, berries are mixed with shortening and sugar to form agutak. Many quarts are also frozen for use later in the year.

Several factors bear upon an overall assessment of the importance of subsistence harvests in Pilot Point. This village has a rather well-stocked store, its size determined by the large summer influx of people from the boats on Ugashik Bay. Generally high earnings in the fishery would also suggest that a great deal of purchased food might be consumed. Informants, nonetheless, suggest that for the majority of families residing year-round in the village, the great majority of the protein in their diet is locally produced. This assessment is plausible given the more limited availability and exceptionally high cost of protein foods in the store.

An even more important factor is the recognition of a range of variation in the earnings of the families in the village. Although the average earnings in the fishery have been quite high, this average is drawn upwards by a small number of extremely productive vessels, despite the occurrence of several operators for whom the returns are quite low. Thus, several families who reside in Pilot Point year-round are clearly financially dependent upon the food they produce locally. Several families continue to travel up to the Ugashik Lakes area to harvest fish, and caribou at traditional sites. Some people even establish a fall camp at this location, as has been done for many generations.

#### 4.6.4 Pilot Point-Ugashik Social and Political Organization

##### Social Organization

**Kinship.** Kinship systems, by which relatives through descent and marriage are recognized, often play an important part in organizing the social roles of small communities. While societies differ in the degree to which kinship systems provide explicit codes of behavior in economic, social, and political action, kinship typically influences each of these domains.

The people of both Pilot Point and Ugashik have now adopted many aspects of the relatively standardized North American system of kinship nomenclature. Descent is reckoned patrilineally, with children receiving the surname of their father. Relatives on the mother's side are also recognized, thus the system is bilateral as well. Residential groups in Pilot Point are usually nuclear families; only in one instance does an extended family occupy the same household. Lineages are recognized by a common surname but property (boats and businesses) are owned by the individual heads of household, not by the lineage as a group. This said, however, it is important to recognize that there is considerable sharing of goods and mutual assistance between members of a common lineage.

The lineage structure of the Pilot Point population is quite diffuse; there are many lineages, each of which has few member households. In contrast, the population of neighboring Port Heiden was quite concentrated with three major lineages accounting for the vast majority of the population. The size and distribution of Pilot Point lineages is presented in Table 4.6.9.

The small lineage size in Pilot Point appears to reflect the decline in population from a formerly larger size. The many small lineages are remnants of previously larger groups.

The degree to which kinship integrates the community can be assessed by considering the marriage linkages between them. Note that marriage makes members of lineages in-laws in the same generation as the married couple and cousins in the first subsequent generation.

In Pilot Point there are two generations in which the marriage patterns can be clearly identified: a senior generation in which the members were born between 1923 and 1946, and a junior generation made up of persons born between

Table 4.6.9

PILOT POINT HOUSEHOLDS BY LINEAGE

<u>Number of Lineages</u>	<u>Number of Households</u>
3	3
4	2
2	1
—	—
9 Lineages	19 Households

1950 and 1960. These generations correspond to the adult generation which began fishing in the 1940s and 1950s on the one hand and the young adults who are just now reaching marriage age on the other.

In the senior generation, five marriages took place between lineages within the village. In one additional case, two sisters married into different lineages, providing another set of linkages. In this generation, then, all nine lineages are linked to at least one other lineage as in-laws and three lineages are related to two other lineages each. There were no marriages between these lineages in the preceding generation so none of these lineages have cousin relations between them in this generation.

In the junior generation, members of all nine lineages are related to members of at least one other as cousins and, in the case of three lineages, cousin ties extend to two other lineages. There are no new marriages between lineages in this generation; hence, no new relations as in-laws have been established between lineages.

Marriage patterns also indicate linkages between Pilot Point and other villages in the region. In the senior generation there was a total of 16 marriages, including a very small number of remarriages. In nearly one-third of these (n=5), both partners were from Pilot Point. Marriage partners from outside the village were about equally likely to come from a neighboring village as from outside the region. Slightly less than one-third of the non-local partners were from the neighboring villages on the southside of the Alaska Peninsula, Chignik in four cases and Perryville in one. The marriage partners from outside the region came from Anchorage and the lower 48. No linkages by marriage were established in this generation between Pilot Point and the adjacent villages on the north side of the Alaska Peninsula.

In the junior generation, the pattern is completely different. No marriages as yet are between two Pilot Point residents. Of the eight marriages in this generation, half involve partners from Bristol Bay with Dillingham, south Naknek, and Port Heiden represented. The other half of these marriage partners were from Anchorage, Tacoma, and other locations outside the state.

Kinship relations, then, integrate this village fairly tightly; however, the nature of this integration is changing. During the senior generation, a tendency emerged for marriages to take place between coresidents of Pilot Point. In the generation before and in the junior generation which follows,

there was and is no such tendency. This tendency toward endogamy in the senior generation corresponds historically with the reconsolidation of population in Pilot Point following the flu epidemic. Since the people who repopulated Pilot Point following the epidemic were not closely related, they could find marriage partners among the other lineages in the village. But, once a number of relations had been established between lineages within the village, it is considerably less easy to find an eligible marriage partner locally. The general trend, in a very small village, would be against a high rate of endogamy. In Pilot Point the marriage pattern of the junior generation appears to correspond with this generalization.

Interestingly, if no marriages between local lineages occur in the junior generation, the cousin relations which currently link members of most lineages at this generation level will become more distant in subsequent generations. High school attendance outside the village and school activities introducing young people throughout the region appear to be factors contributing to the current tendency toward marriage with non-local partners.

From the standpoint of how people actually behave, it is important to note the way in which kinship organizes certain domains of activity. The discussion of crew composition indicated that set net assistants are almost always family members. While family members provide only a minor proportion of all crew members on the drift gillnet boats (13%), there is a marked tendency for brothers or father and sons to fish near one another and to provide other forms of mutual assistance. Mutual assistance between family members is also apparent in the commercial operations in Pilot Point. Subsistence harvest groups are often families and extended families and subsistence foods are widely shared within lineages, especially from younger older members of the lineage. In politics, as well, there was an evident tendency for kinship to play an important role. This point should not be overstated for no lineage dominates the formal positions of political responsibility. These are, instead, spread rather widely among the different lineages. There is, nevertheless, a tendency for verbal positions on issues to be drawn along lineage lines, with lineage members speaking in support of other lineage members. In the decisions which eventually emerge, it does not appear that any particular lineage consistently wins, but co-lineage members certainly appear to understand and support one another's views, more than those of others.

Friendships also organize many forms of activity. In

particular, young people tend to spend their leisure time with age mates of the same sex. Age mates also tend to form groups which fish together, perhaps even more commonly than with lineage mates of different ages.

Voluntary organizations. There are no voluntary organizations in Pilot Point or Ugashik.

#### Political Organization

Local Organizations. The Pilot Point Village Council is the principal form of local government since the village has not incorporated to form a municipal government. The council is made up of seven members, from whom four officers are selected. The role of the council has generally been quite modest although in the past year it has taken a much more assertive role in the area of the fuel and electrical utilities. The council's responsibilities have otherwise included fire protection, the operation of the Community Center, and the development of public facilities, i.e, roads, and possibly a small boat harbor.

Utilities in Pilot Point have previously been handled exclusively by the Pilot Point Trading Company. Using a state appropriation of \$100,000, the Village Council, in 1981, purchased six 25,000 gallon storage tanks from the Alaska Packers Association. Beginning that summer, the Village Council made the annual bulk fuel purchase and then resold the home heating oil to families throughout the year. The Trading Company continues to generate electricity but purchases its fuel from the Village Council, rather than handling the entire bulk purchase as it did in the past. In addition, the Village Council is currently seeking funding to upgrade the village's electrical system, including new generating capacity.

Fire protection has been a high priority for the Village Council and the federal Department of Housing and Urban Development (HUD) recently approved a request for a grant to purchase a fire truck and construct a suitable storage building. The design of this building has now been approved and construction is to begin during 1982.

The Community Center houses the local Health Clinic for which the village receives a monthly payment from the U.S. Public Health Service (PHS). The other portion of the building serves as a recreation center and for community meetings.

Public works in Pilot Point have been handled on an on again, off again basis during the past. Several years ago an

appropriation of \$70,000 was obtained from the State Legislature to upgrade the road system in the village, but no funds were obtained for ongoing maintenance costs. The air strip is maintained under a contract between the Alaska Department of Transportation and an individual in the village. Plans are currently under discussion for construction of a small boat harbor at Dago Creek, the present unimproved moorage site about two miles north of the village. A request for an appropriation for this purpose was recently submitted to the legislature but a feasibility study is required before closer consideration can be given to the request.

The operating budget of the Pilot Point Village Council has always been quite modest until FY1981 when the village became eligible for state revenue sharing funds. As shown in Table 4.6.10, the recurring sources of funds amounted to only \$17,044 in FY1980 and \$38,044 in FY1981. The difference between the two years is the \$21,000 in state revenue sharing funds in 1981. Funds known as PL.93-638 are granted by the federal government to recognized tribal organizations under the Indian Self-Determination and Educational Assistance Act of 1974. They are intended as startup funds and will not support ongoing programs and services. The federal revenue sharing funds are minor and likely to be cut in the very near future. State revenue sharing funds are likely to become virtually the sole source of operating funds for the Village Council.

In contrast to the modest level of recurring funding, the Pilot Point Village Council has quite successfully used direct appropriations for project funding. Direct appropriations carry their own disadvantages in that lengthy administrative delays sometimes occur. More substantially, however, these appropriations rarely contain funds for the on-going operation of the facilities which are constructed. The two forms of funding must, then, be integrated so that operating funds are sufficient to handle the new facilities constructed with the direct appropriations.

The other major local political organization in Pilot Point is the Pilot Point Native Corporation, the village corporation formed under the Alaska Native Claims Settlement Act. The corporation is governed by a nine-member board of directors elected by the shareholders in their annual meeting. Four officers are selected from among the board members.

The village corporation's principal activity at this point is the operation of the Diamond E cannery in Egegik through a subsidiary which is co-owned with the village corporation in Egegik. A director from the Pilot Point Native

Table 4.6.10

PILOT POINT VILLAGE COUNCIL REVENUES, FY1980 - FY1981

FY1980

PL 93-638	\$ 7,300
Federal Revenue Sharing	3,000 (approx.)
Public Health Service	
Rental of Health Clinic	6,744 (approx.)
State of Alaska Legislative Appropriation for Bulk Fuel Storage Tank Purchase	<u>100,000</u>
Total	\$117,044

FY1981

PL 93-638	9,300
Federal Revenue Sharing	3,000 (approx.)
Public Health Service	
Rental of Health Clinic	6,744 (approx.)
State of Alaska Revenue Sharing	<u>21,000</u>
Total	\$ 37,044

Recent Direct Allocations

- 1979 - Federal HUD Grant for Fire Protection Building and Vehicles - \$70,000
- 1979 - State of Alaska Legislative Appropriation for Road Work - \$70,000



Corporation sits on the board of this subsidiary and plays the dual role of representing the wishes of the Pilot Point shareholders to the Diamond E management and communicating the concerns of the cannery management back to the shareholders. The corporation shareholders, moreover, make up the majority of fishermen committed to sell to the Diamond E cannery.

The Diamond E cannery has experienced both financial and managerial difficulties in the last few seasons. As a result, discontent is now openly expressed by some Pilot Point shareholders who argue that the prices paid are too low and that the portion of the pay held back for the fall settlement is too high. The cannery industry is certainly facing many challenges at the present time and it is unclear whether more favorable terms to the fishermen, who are also shareholders, could be offered at the present time. Both views are widely expressed within the corporation without a clear course of action having emerged to date.

During 1981 the Pilot Point Native Corporation also considered a boat purchase and leasing scheme through which the shareholders could obtain new vessels without having to seek individual financing for loans. The corporation would obtain a large loan from one of several sources, purchase a number of new boats, and then lease the boats back to the shareholders. A similar lease purchase arrangement was used by the Alaska Packers Association in the early 1960s when its vessels were sold to the fishermen who had been operating them.

A final undertaking by the Pilot Point Native Corporation is worth nothing although it is not possible to fully interpret this event. The corporation has not developed a comprehensive policy regarding the use of its lands; indeed, the whole question appeared to have been largely obscured by the demands of the Diamond E subsidiary. However, in August 1981, the corporation, under the signature of its newly-elected president, posted a notice in the airport in King Salmon advising that non-shareholders would not be permitted to use the corporation's lands beyond the 12 hours provided for under the State of Alaska's easement. The land in question is located on the shore of Ugashik Bay opposite the village where a small airstrip is located and many sportsmen arrive each fall to harvest the waterfowl passing through this flyway. As this matter had not been discussed in the most recent meeting of the corporation, it is unclear what lies behind this initiative. Perhaps there had been abuses of the previous informal system of flying in, hunting the waterfowl, and leaving, or perhaps this was more generally a symbolic gesture aimed at asserting the authority of the

corporation on its own lands.

The final local political organization in Pilot Point is the local School Advisory Committee. Composed of three parents, the Advisory Committee represents the interest of the local parents to the regional administration. They oversee the local administration of the K-6 school program.

In past years, the Advisory Committee has urged the use of enrichment activities at the local school. Itinerant art and journalism teachers, for example, helped with the publication of the 1979 Pilot Point Journal, a photographic and narrative history of the village. Various field trips to Anchorage and Seattle have also been arranged.

The School Advisory Committee is presently confronted with a major crisis. The school-aged population in the village is shrinking rapidly as more families take up winter residence outside the village. As of August 1981, it appeared that there would be fewer than six students, the minimum number required to keep the school open. While the district would not be inclined to close the school during the first year in which this minimum student population was not met, if more students are not found, it is entirely possible that the village would lose its school altogether.

The sole instance of local government in Ugashik is the Village Council. With a four-member board, the council has undertaken only a few initiatives in recent years. The council oversees no on-going services and most of its efforts have been devoted to securing direct appropriations from the legislature for various public works projects in the village. Operating funds have been limited to state revenue sharing funds and these have generally been saved to supplement the appropriations for major projects. Revenue sharing funds amounted to \$22,000 in FY1980 and \$12,000 in FY1981.

The Village Council successfully lobbied for major project funding in 1981. The legislature appropriated \$100,000 to the Village of Ugashik for construction of an air strip and \$87,000 for improvements to the road. These projects will be under way by the summer 1982.

Another item on which the Village Council sought assistance from the legislature has thus far not been crowned with success. The village has no satellite telephone, as RCA's policy is to place phones in villages with a minimum of 25 year-round residents. A petition to the legislature failed to persuade them to intervene with RCA.

Regional Organizations. Pilot Point is within the Bristol Bay region and is therefore part of the Bristol Bay Native Corporation as well as being eligible to receive services from the range of Bristol Bay regional service associations. The involvement of Pilot Point at this regional level has, however, been limited.

The Bristol Bay Area Health Corporation (BBAHC) is the only regional organization to operate a full-time service in the village. The health aide in Pilot Point is employed by BBAHC which also provides in-service training. Pilot Point has a single representative on the board of the BBAHC.

Bristol Bay Native Association has no on-going services in Pilot Point although the staff of the association has often served as technical advisors to the village concerning requests for legislative appropriations. The village is represented on the board of the Bristol Bay Native Association by a single representative.

Pilot Point has no representative on the Board of Directors of the Bristol Bay Native Corporation. Residents do not generally have a close relationship with the regional corporation and, indeed, some voiced dismay at the action of the regional corporation at the time the Diamond E cannery was purchased by the Pilot Point and Egegik Village Corporations.

Finally, the Regional School Board of the Lake and Peninsula School District has no representative from the village of Pilot Point. The local advisory committee serves to provide an active forum for the concerns of the village regarding the operation of the school.

Ugashik's integration into the regional network is similar to that of Pilot Point. At present, none of the regional organizations provide regular services in this small village; however, at various points Ugashik has contributed to regional leadership. A resident was formerly the president of the Bristol Bay Native Association and another resident currently sits on the regional school board.

Political Process and Response Capacity. To summarize these considerations regarding the political organizational structure in Pilot Point, the problem of "response capacity" will be examined in terms of two aspects--technical scale and competence, and legitimacy.

The scale of the undertakings by the local political structure in Pilot Point, whether the belated involvement in provision of utilities or public works, is decidedly modest and

this by explicit intention. Informants report that discussion occurred regarding the village's taking over the electric utility, but that the weight of opinion was against it because it required so much paperwork to conduct the monthly billings. The projects that have been undertaken, however, have been handled with great competency. Meetings are conducted quite professionally, with presentations by knowledgeable members and, on the whole, very pertinent discussions regarding the consequences of possible courses of action. This suggests that there exists in Pilot Point a reservoir of organizational ability that has, by choice, not been fully utilized to date.

At the same time, the problem of "response capacity" is not merely a technical one, for it speaks also to the degree to which the decision-making structure is representative of the full range of interests in the village. As noted, Pilot Point is a community with two major portions--those who are resident year-round and those who grew up in the village but as of late reside outside for the winter or the school year. This fact alone would suggest that there are important differences in the degree to which people are informed as to local issues and the degree to which they participate in informal processes of evaluating and proposing responses to perceived problems. Limited observation of the political process in Pilot Point suggests that some of these divergences do exist and that, in some cases, it is the pattern of residency that correlates with differences of position, although this not exclusively the case.

It is important not to overstate the case regarding divergence in positions in a small village, most importantly because the subtle processes of give and take are simply not available to an outsider for observation.

Again on the basis of rather limited observation, there is a notable tendency for political initiative to be concentrated in a limited number of lineages. Equally important, however, no "trouble cases" were reported, nor observed, in which decisions closely aligned with an influential lineage were contested to the point of dispute or rupture.

In sum, these remarks regarding representation and legitimacy in the political structure of Pilot Point suggest that there are important possibilities for divergence but that, to date, they have had little influence on the political process.

#### 4.6.5 Pilot Point-Ugashik Sociocultural Organization

Pilot Point, like other villages on the Alaska Peninsula, has had three major influences on its cultural heritage--an aboriginal tradition, the Russian influence, and the influence of the turn of the century cod and salmon fisheries. The contemporary sociocultural system of Pilot Point is made up of elements of each of these traditions.

Language. Use of the Aleut language is an important indication of continuity in cultural heritage in the village. A limited number of elderly people still regularly use Aleut as their language of communication in the home and a number of adults in the village retain the ability to speak Aleut but do not regularly use it in their home. Finally, some of the younger people in the village retain the ability to understand Aleut, but speak it very little, if at all. A bi-lingual course was begun in the local school but was ended after a few years for lack of sufficient interest. It should be noted that although local residents use the term Aleut for the language, it is probably more properly termed Aleutiq, or Sugpiag, as it is same language spoken by the Peninsular Eskimo of Perryville, Chignik, and Ivanof Bay on the southside of the Alaska Peninsula.

Ethnic Identify. Historically, the village of Pilot Point consolidated during a period of high ethnic diversity. Around the turn of the century the cannery operations regularly involved Italians, Sicilians, and a limited number of northern Europeans as boat operators. Most of the cannery processing crews were Chinese. Early in the century, reindeer herding experiments brought a small group of northern Eskimos (Inupiaq) to the village.

Local place names in the village reflect the high degree of awareness of ethnic identity at this time. First, the creek where the boats are moored during the salmon season is known as "Dago Creek." Secondly, a small group of abandoned houses on the beach near the Alaska Packers Association plant are referred to as "China Town," since these were homes for the Chinese cannery hands. Finally, south of the main portion of the village, by about half a mile, another cluster of houses is honored with a separate name. This neighborhood, referred to as "Eskimo Town," was home to the Inupiaq Eskimo immigrants of the reindeer herding days.

During the early decades of this century, some White fishermen married local women and stayed to raise families in Pilot Point and Ugashik. According to anecdotal accounts, considerable prejudice was shown toward aboriginal heritage. In a particularly poignant instance, a White father is said to have discouraged his sons from further schooling by observing

that they were only natives, after all.

Religion. The Russian Orthodox Church occupies an important place in both current cultural practice and historic cultural heritage of Pilot Point. The church building is located on a high point of land at the south center of the village. Though there has not been a priest making regular visits for some time, the Russian Orthodox faith is still the nominal faith of a majority in the village. As recently as the 1950s informants remember community-wide celebrations of Russian Orthodox holy days. In more recent times the church in Pilot Point receives the rare visit of a priest, usually for a funeral. For the holiday celebrations, the Orthodox Pilot Point residents attend the new, and very beautiful, Russian Orthodox Church in Chignik.

The other religious traditions are represented in the recent past and present of Pilot Point. A Seventh Day Adventist mission was established in Pilot Point some time before the 1950s. The mission patented 40 acres of land and built a church. Although one of the early teachers in the Pilot Point school was associated with the Adventist Church, the school was not a mission project. The Adventist Church was said to have obtained few converts and when the church burned in a fire in 1959 it was not rebuilt. There is presently no further missionization effort by this faith in Pilot Point although the church continues to own its land in nearly the center of the village.

Finally, some time in the last decade a fundamentalist faith became important to a number of Pilot Point residents. Several young men in the village attended a high school in southcentral Alaska affiliated with this faith, but their involvement appears to have slackened now.

Socialization. Concerning education, the picture is not altogether clear. On the one hand, the fact that several families have taken up residence in Anchorage, explicitly to permit their children to complete secondary school, suggests that schooling is seen as an important value. But, to date, these students have not continued on to post-secondary schooling. On the other hand, the local elementary school is in danger of not meeting requirements for minimum number of students which could result in the closure of the local school.

Some of the senior generation received extensive technical training during and after the Second World War, and technical school remains a valued alternative to further academic education.

Values. The circumstances surrounding core values in Pilot Point are complicated by the current transformation of the demographic profile of the village. While fishing as a livelihood is a central value to many of those in the village, as many former residents begin other pursuits outside the village, this value appears to have declined in importance. Even within the village itself, several families are becoming increasingly involved in commercial enterprises and this, too, diminishes the emphasis placed upon the fishery as the source of identity.

Similarly, the trend toward part-year residence appears to be eroding the value of village cohesion. While the village is still able to undertake collective projects, through the Pilot Point Native Corporation in particular, there does not seem to be a strong sense of emotional commitment to and identification with the village.

In short, the trend toward seasonal duality in the population appears to have "privatized" the concerns of many households. Even the fishery, in this sense, appears to have become an undertaking of individual entrepreneurs.

## CHAPTER 5

### COMPARISON, LINKAGES, AND TRENDS

This final chapter discusses comparisons among, linkages between, and trends in the fisheries and communities of the study area. First, a comparison of significant similarities and differences between communities is presented, including fishing patterns. Next, important linkages between the communities in the study area are described as well as linkages between study area communities and other communities outside the study area. Finally, significant trends in the fisheries and the communities are identified.

#### 5.1 COMPARISONS

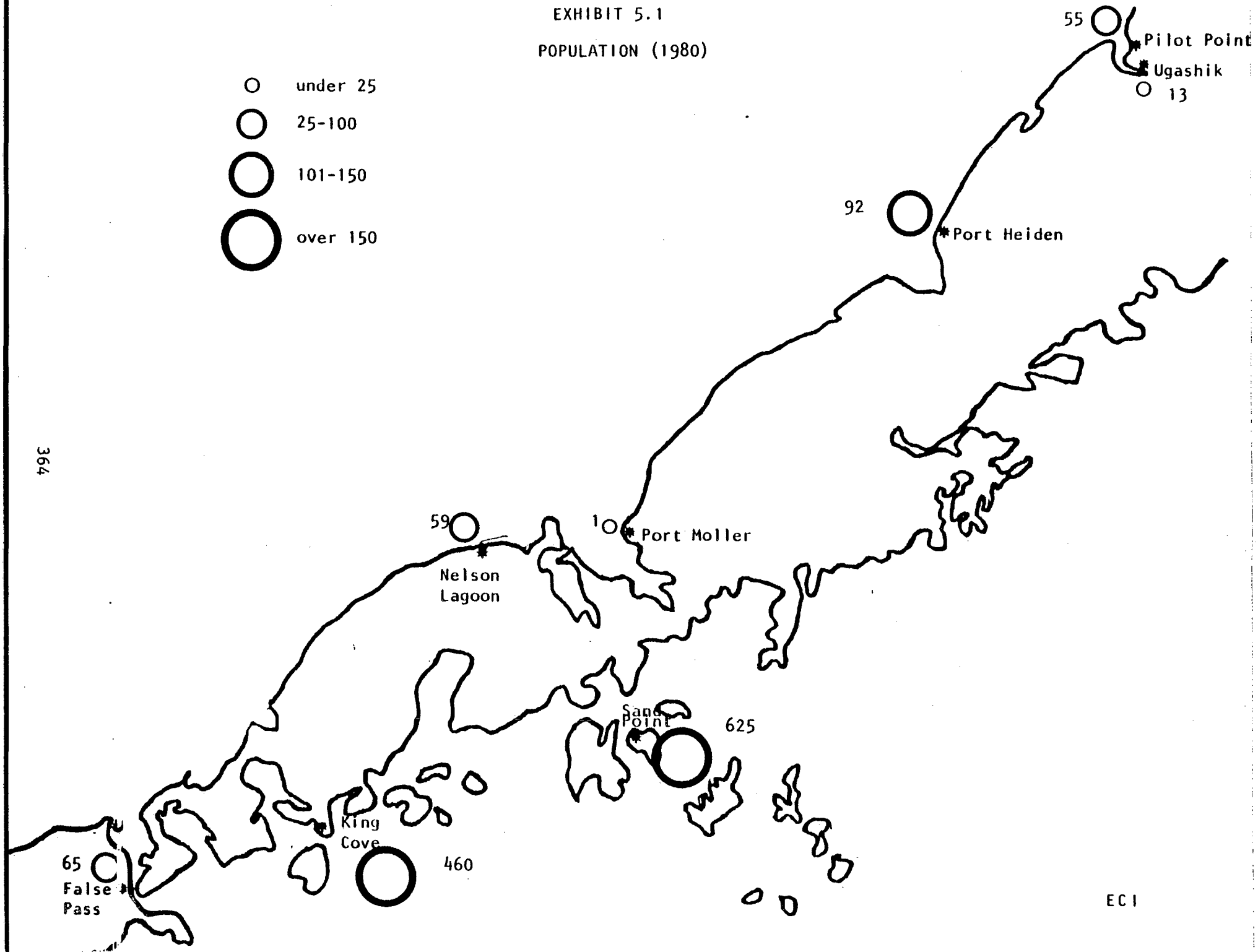
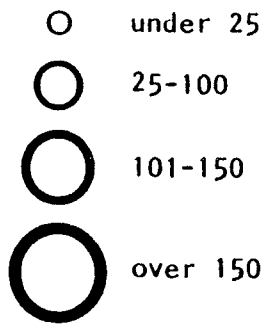
Demographically, the communities show a wide range of variability. Sand Point is by far the largest with a 1980 population of 625 while King Cove is a close second with a population of 460. The remainder of the communities are much smaller and generally have less than 110 individuals (see Exhibit 5.1). The relative level of involvement in seafood harvesting as discussed below tends to follow the total population picture with two surprising exceptions. Nelson Lagoon shows a very high level of per capita involvement while Port Heiden shows a low level of per capita involvement at least as measured by units of gear operated per community resident. This, of course, does not reflect crewmen.

All the communities considered in this report show a strong dependence on seafood production. The relative level of participation by these communities can be partly understood in terms of the number of units of gear operated. Commercial Fisheries Entry Commission information for each community showing the number of individuals that reported commercial seafood harvest is summarized in Table 5.1 for the 1975-1979 period. This information shows that Sand Point has the largest number of participants, followed by King Cove. King Cove is followed by Nelson Lagoon, Pilot Point and Port Heiden at comparable levels in terms of number of participants. False Pass and Ugashik bring up the rear, in that order. Exhibit 5.2 further summarizes this information.

The relative level of participation is also illustrated and substantiated by the number of vessels considered to belong in each community. As Table 5.2 shows, Sand Point and King Cove have the greater number of vessels; 91 and 53 respectively. Nelson Lagoon, Pilot Point and Port Heiden



EXHIBIT 5.1  
POPULATION (1980)



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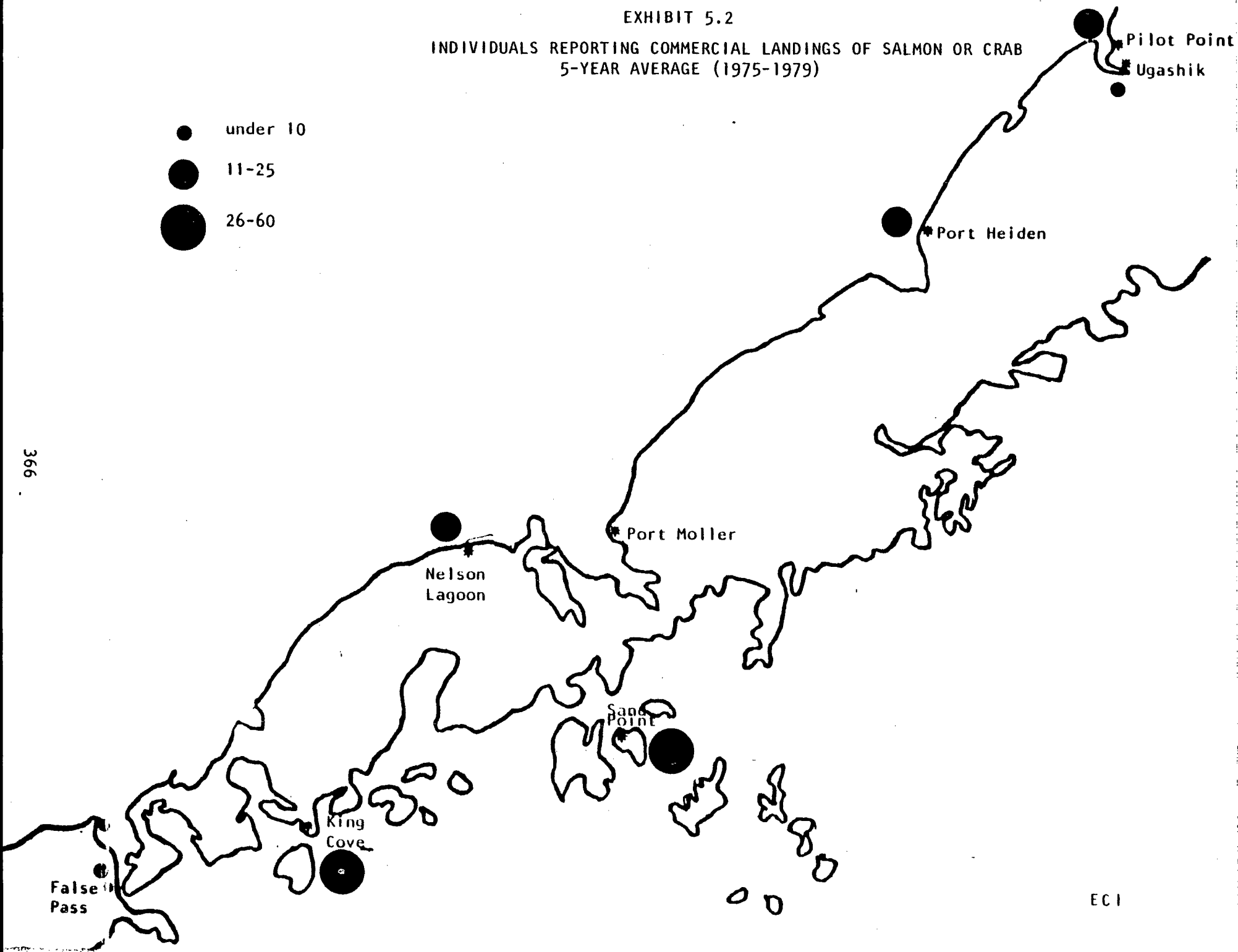
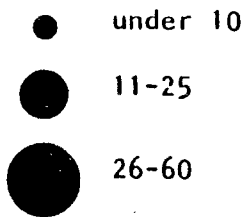
Table 5.1  
 NUMBER OF INDIVIDUALS REPORTING COMMERCIAL LANDINGS OF SALMON OR CRAB  
 BY COMMUNITY

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>Average</u>
False Pass	6	8	9	10	11	8.8
King Cove	29	33	34	39	40	35
Nelson Lagoon	20	19	19	20	25	20.6
Port Heiden	12	18	17	17	21	17
Pilot Point	18	20	16	18	19	18.2
Sand Point	47	57	52	62	67	57
Ugashik	<u>7</u>	<u>10</u>	<u>10</u>	<u>4</u>	<u>7</u>	<u>7.6</u>
Total	139	165	157	170	190	164.2

Source: Commercial Fisheries Entry Commission

EXHIBIT 5.2

INDIVIDUALS REPORTING COMMERCIAL LANDINGS OF SALMON OR CRAB  
5-YEAR AVERAGE (1975-1979)



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TABLE 5.2  
VESSELS, GEAR TYPES, AND PERMITS BY COMMUNITY

	<u>Local # Vessels</u>	<u>Gear Types</u>	<u>(#)</u>	<u>Vessel Size</u>	<u># Permits</u>
Sand Point	91	Purse Seines	41	36' - 53'	48
		Drift Gillnets	15	29' - 45'	29
		Set Gillnets	23	22' - 44'	41
King Cove	53	Purse Seine	6	50' - 60'	37
		Drift Gillnets	16	40' - 50'	39
		Set Gillnets	31	30' - 40'	12
		Crab Pots			
Port Heiden	14 & 7 skiffs	Drift Gillnets	14	32'	11
		Set Gillnets	7	skiffs	12
False Pass	10	Purse Seine	10		7
		Drift Gillnets		Vessels	9
		Set Gillnets		Total	7
Nelson Lagoon	18	Purse Seine	2	34' - 36'	2
		Drift Gillnets	15	32'	15
		Set Gillnets		12' - 16' skiffs	18
				16' - 28' jet boats	
Pilot Point	15	Drift Gillnets	15	32'	17
		Set Gillnets		12' - 14' Wood skiffs	14
				20' Aluminum skiffs	

again follow in that order with 14 or more vessels each. False Pass has only 10 vessels.

Several communities utilize the same fishing grounds, especially for purse seine and drift gillnet operations. In this section the fishing grounds and areas utilized by fishermen from the various communities are discussed. First presented are the purse seine areas, which are followed by drift gillnet and then set gillnet areas.

The fishermen from Sand Point and King Cove conduct purse seine operations in the Unimak Bight area. The common areas include Cape Lazaref to Cape Lutke. Ikatan Bay is also an important ground for these fishermen. Popof Head near Sand Point and the areas off the Shumagin Islands are, to a limited extent, shared by fishermen from the two communities. Purse seining (especially beach seining) is also conducted in the vicinity of various bays.

The False Pass and Nelson Lagoon fishermen who purse seine are primarily engaged in beach seining and do not travel far from their home port. The Nelson Lagoon purse seine fishermen utilize Herendeen Bay near Port Moller while False Pass fishermen primarily use their beach seine gear from Uria Bay to Moffet Lagoon on the northside of the peninsula and in Bechevin's Bay. Exhibit 5.3 illustrates this.

Drift gillnetting by far draws the largest number of communities in terms of area-wide participation and also in terms of common fishing areas. Ikatan Bay is fished by fishermen from Sand Point, King Cove, False Pass and Nelson Lagoon. Another area that is used for drift gillnetting by fishermen from several communities is the Port Moller area. This is frequented by vessels from Sand Point, King Cove, False Pass and Nelson Lagoon. The fishermen from Port Heiden, Pilot Point and Ugashik conduct drift gillnetting in Ugashik Bay, as well as in the vicinity of Port Heiden for the Meshik River salmon. They also fish halfway between Port Heiden and Pilot Point in the Cinder River area. Exhibit 5.4 summarizes the drift gillnet areas.

Set gillnetting is mostly conducted close to home. As Exhibit 5.5 illustrates, there is little travel for purposes of set gillnetting. Table 5.2 summarizes vessel, gear, and permit data by community.

Each of the communities considered is to some degree dependent on subsistence activity (see Table 5.3). Pilot Point and Port Heiden show the greatest dependence on subsistence. Exhibit 5.6 shows that about 90% of protein

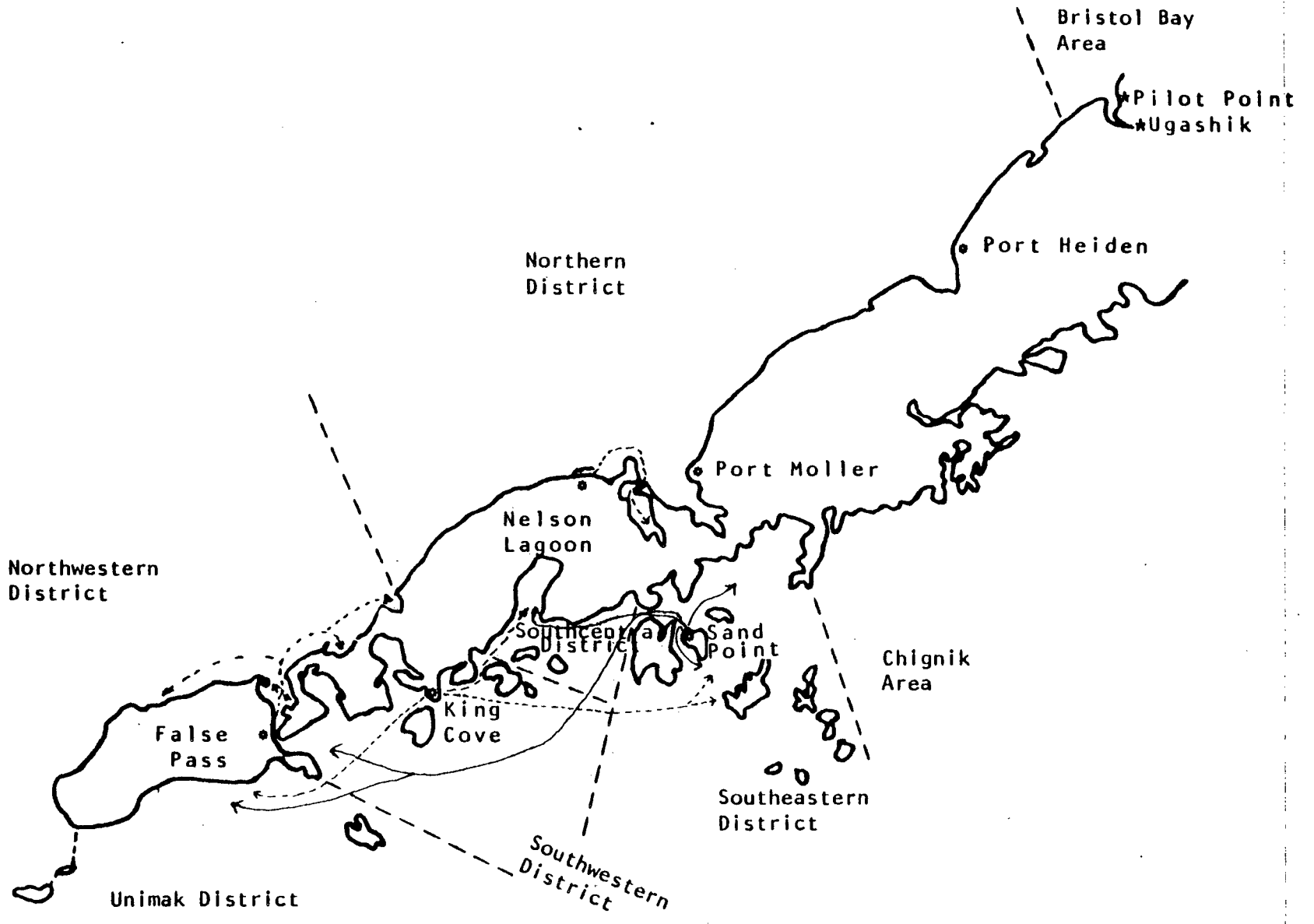
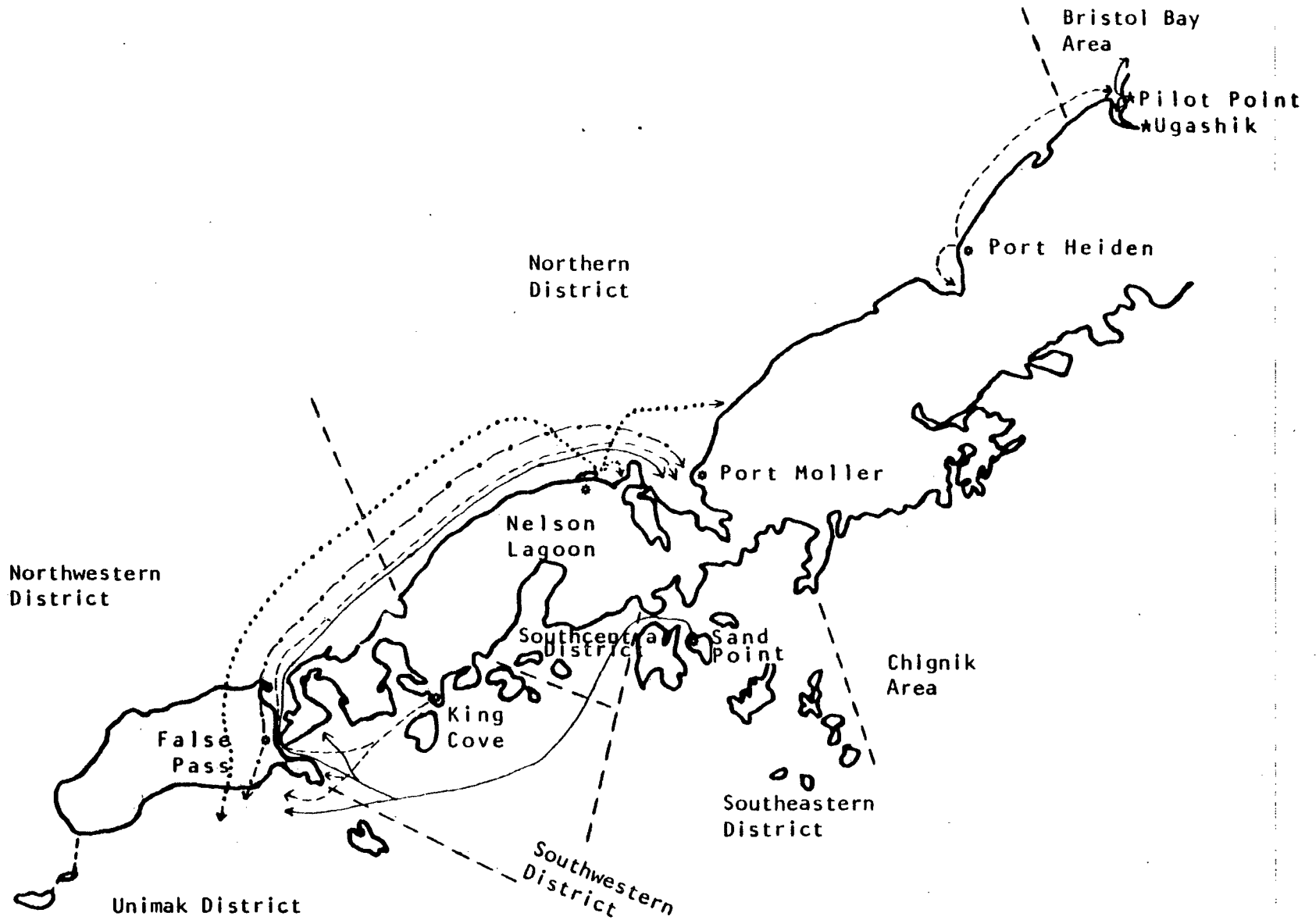


EXHIBIT 5.3

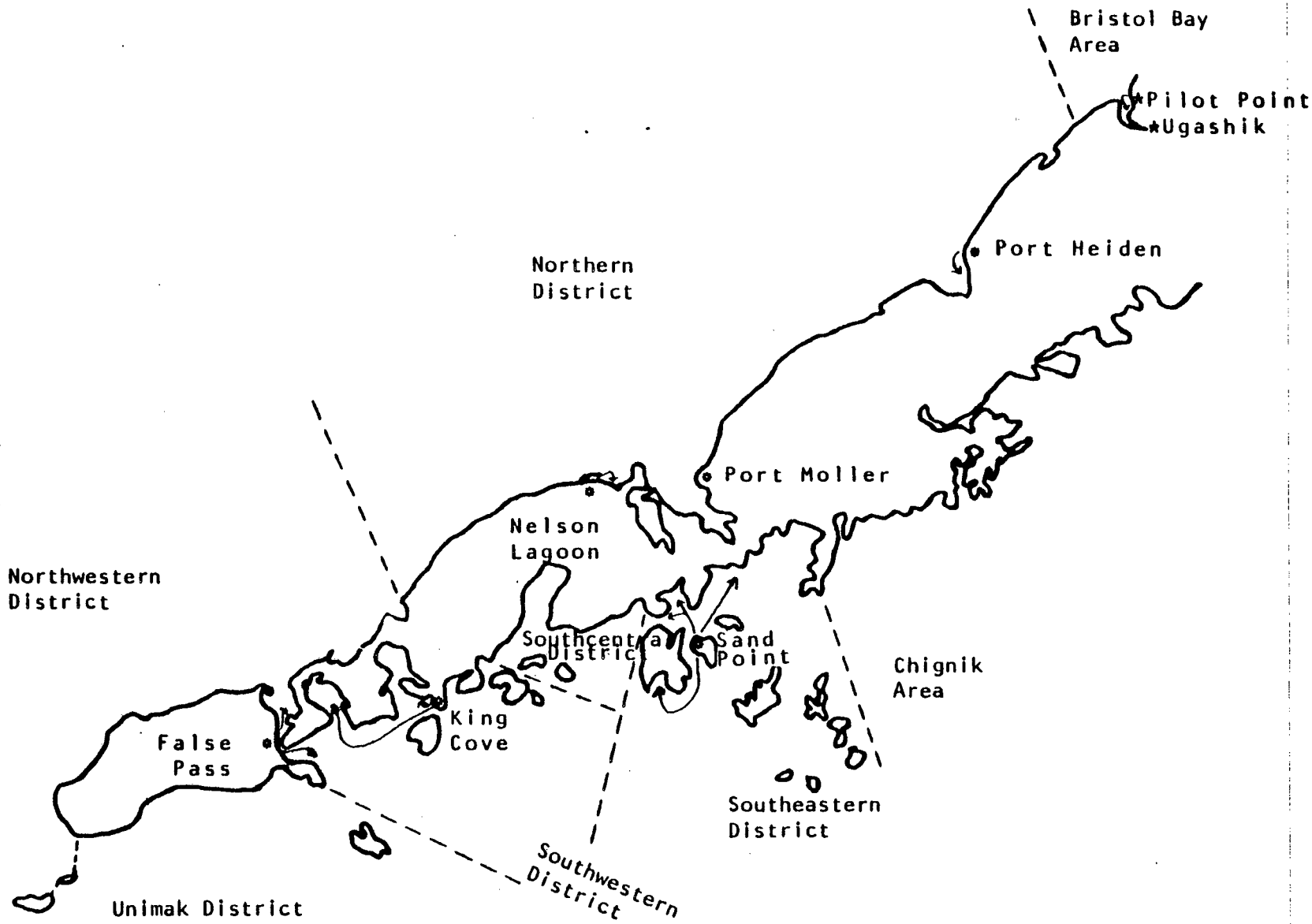
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FISHING GROUNDS FOR PURSE SEINING



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EXHIBIT 5.4  
FISHING GROUNDS FOR DRIFT GILLNETTING



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EXHIBIT 5.5  
FISHING GROUNDS FOR SET GILLNETTING



TABLE 5.3  
SUBSISTENCE \*

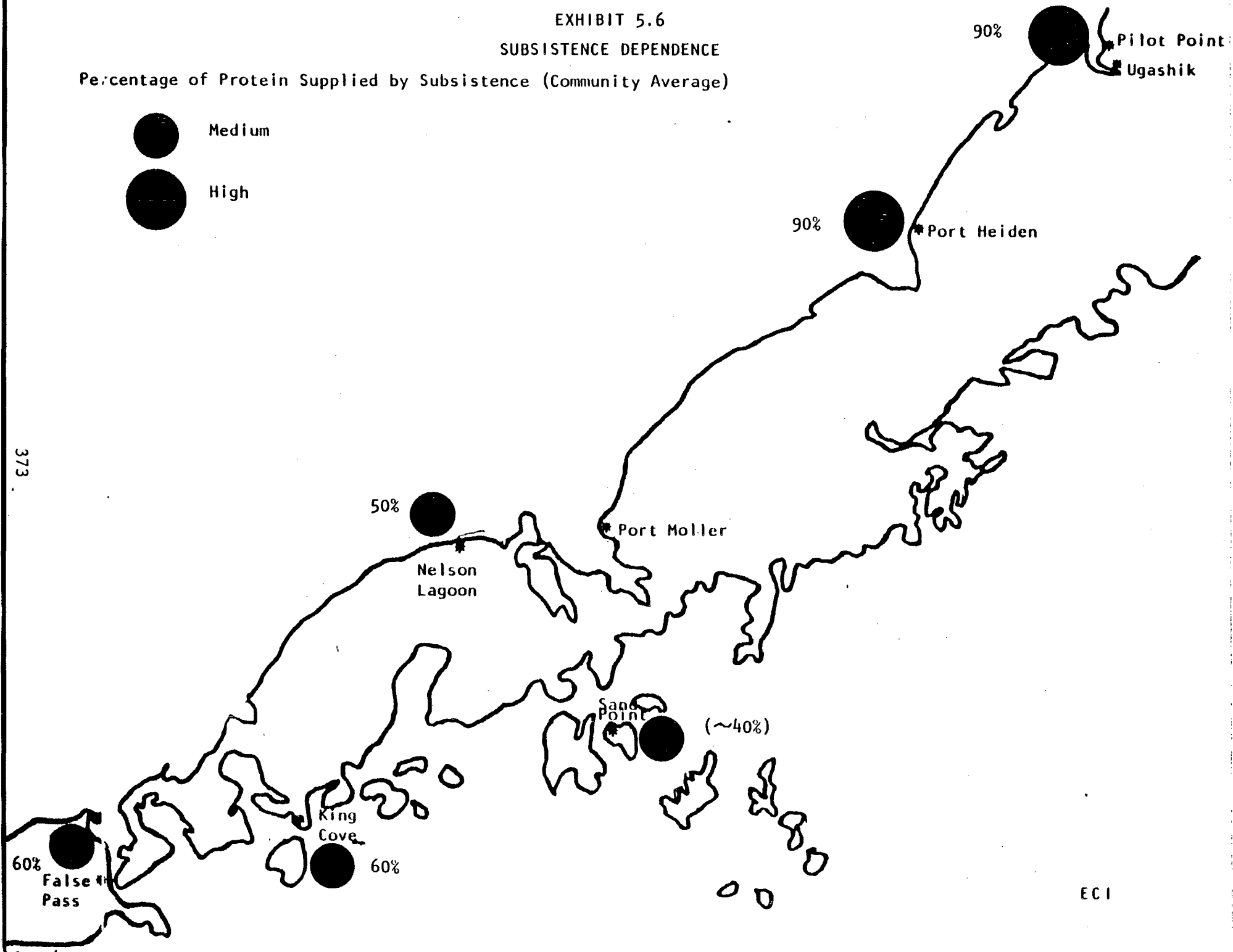
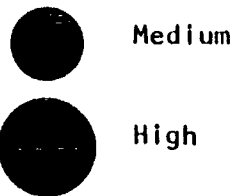
	Salmon	Other Seafood	Caribou	Waterfowl	Wild Vegetables	Other
Pilot Point	50	Smelt	5	Ducks and Geese	Berries	Moose; Seal oil
Port Heiden	150-200	Shellfish	4-10	12-40 Geese	Berries, Spinach, Celery	Moose
Nelson Lagoon	75-130	Halibut, Shellfish	2-4	Ducks and Geese	Berries	Moose
False Pass	150-200	Halibut, Cod, Shellfish	6-10	Ducks and Geese	Berries	Seal oil
King Cove	50-150	Shellfish, Cod, Halibut, Trout	4	Ducks and Geese	Berries	Seal oil
Sand Point	50-200	Shellfish	yes	Ducks and Geese	Berries, Greens	Seagull eggs

\* Numbers are approximates by household per year.

ECI

EXHIBIT 5.6  
SUBSISTENCE DEPENDENCE

Percentage of Protein Supplied by Subsistence (Community Average)



needs in these communities are fulfilled through subsistence. King Cove and False Pass show the next highest level of subsistence dependence, as 60% of protein is contributed in this manner. The protein contribution by the subsistence economy is 50% in Nelson Lagoon and lowest at about 40% in Sand Point. The subsistence food items utilized include salmon and other seafoods, caribou, waterfowl, wild vegetables and other items. Salmon and caribou are the most important contributors to the subsistence diet.

Other economic activities in these communities include commercial enterprises, the public sector, transportation and communication systems. Table 5.4 displays the different entities and services to be found in these communities.

As discussed in Chapter 4, kinship is the major determiner of social organization in the communities. Much activity is organized by lineages. As detailed in Table 5.5, Sand Point, King Cove, False Pass, Nelson Lagoon, Port Heiden and Pilot Point each has six or more lineages. In several communities a few major lineages account for the majority of population. For example, five out of 14 lineages in King Cove and three of 14 lineages in Port Heiden account for 67% of the population in each case. In Nelson Lagoon, three of the six lineages are considered dominant, contributing 75% of the population. This is in contrast to Sand Point where no lineage is dominant among a total of 22 lineages. False Pass and Pilot Point have nine lineages with none considered dominant. The kinship linkages among these and other communities are illustrated in Exhibit 5.7.

Turning to political organization in the study area, currently Sand Point, King Cove and Port Heiden are the only incorporated cities in the region considered. False Pass, Nelson Lagoon, and Pilot Point are unincorporated. Each one of the communities has a working political organization in the form of either a city or village council. The incorporated cities, however, tend to have area-wide influence as illustrated by number of members on the Board of Directors of the Peninsula Marketing Association. Exhibit 5.8 and Table 5.6 summarize aspects of political organization in the communities discussed.

Information on cultural heritage, beliefs and religion is contained in Exhibit 5.9. People of Aleut ethnic origin are common to all the communities. In addition, Russian and Scandinavian influence is apparent throughout the region, and particularly evident in Sand Point, Nelson Lagoon and Port Heiden. Unidentified Euroamerican ties are present in King Cove and Pilot Point.

TABLE 5.4

## ADDITIONAL ECONOMIC ACTIVITIES

Community	Commercial	Public	Transportation	Other
Pilot Point	Pilot Point Trading Co.	School; Bristol Bay Area Health Corp.; U.S. Post Office.	Peninsula Airways; Griechen Air Taxi	Fur trapping, Big game guiding
Port Heiden	Port Heiden Trading Co.	City of PH; Bristol Bay Area Health Corp.; School	Reeve Air	Big game guiding, waterfowl guiding
Nelson Lagoon	Motel	PHS; Secretarial & book-keeping for Council & Corporation	Don Johnson	Telephone Operator, Cottage enterprises, Reporting fishing
False Pass	Cable TV	School; Health Aide; U.S. Post Office	Peninsula Airways	
King Cove	Peter Pan grocery; local grocery	City of KC; School; U.S. Post Office	Peninsula Airways; taxi/pot transport	Interior Telephone
Sand Point	Aleutian Commercial Store; Private utilities; motel, tavern & cafe.	City of SP; School	Reeve Air; 2 local air taxis	Construction; home-based businesses

TABLE 5.5

## KINSHIP

	Lineages	Linkages to Other Communities
Pilot Point	9 lineages; no major lineage(s)	Many; *Chignik, Dillingham, Port Heiden, South Naknek, Perryville, Anchorage, Tacoma.
Port Heiden	14 lineages; 3 contain 67% of population.	Few; Port Moller, Bear River, *Chignik, *Pilot Point, Dillingham, Anchorage, outside Alaska.
Nelson Lagoon	6 lineages; 3 contain 75% of population.	Some; *King Cove, *False Pass, Sand Point, Naknek, California.
False Pass	9 lineages; no major lineage(s)	Many; *Sanak Island, *Nelson Lagoon, Sand Point, King Cove, Akutan, Morzhovoi, Ikatán
King Cove	14 lineages; 5 contain 67% of Aleut population	Some; *Belkofski, Nelson Lagoon, St. Paul, Sand Point, *Ikatán
Sand Point	22 lineages; widespread, only 3 have more than 5 households.	Few; King Cove. Aleut villages that migrated to Sand Point: *Sanak, *Unga, *Squaw Harbor.

\* Strongest linkages

ECI

EXHIBIT 5.7  
Kinship Linkages

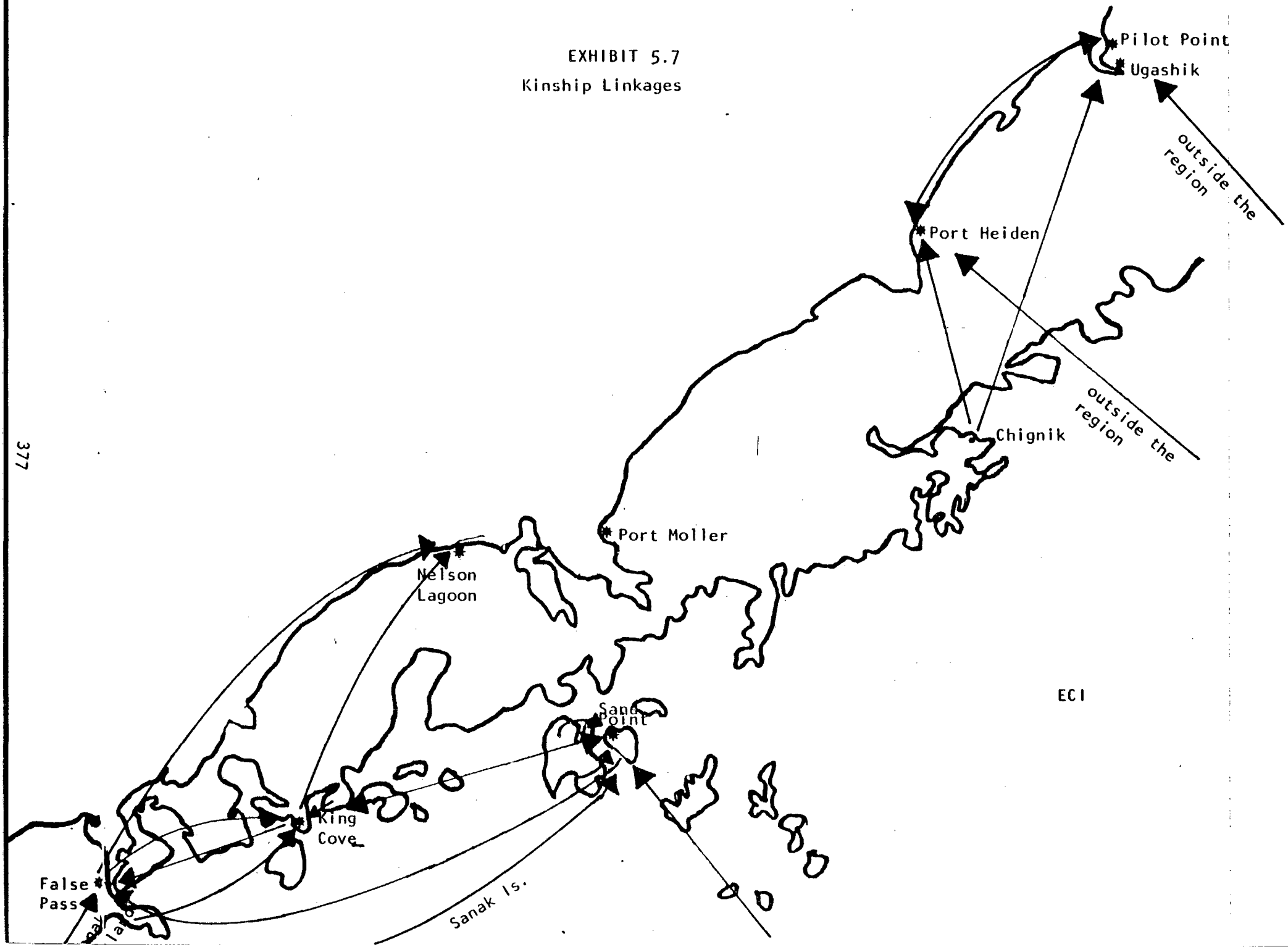
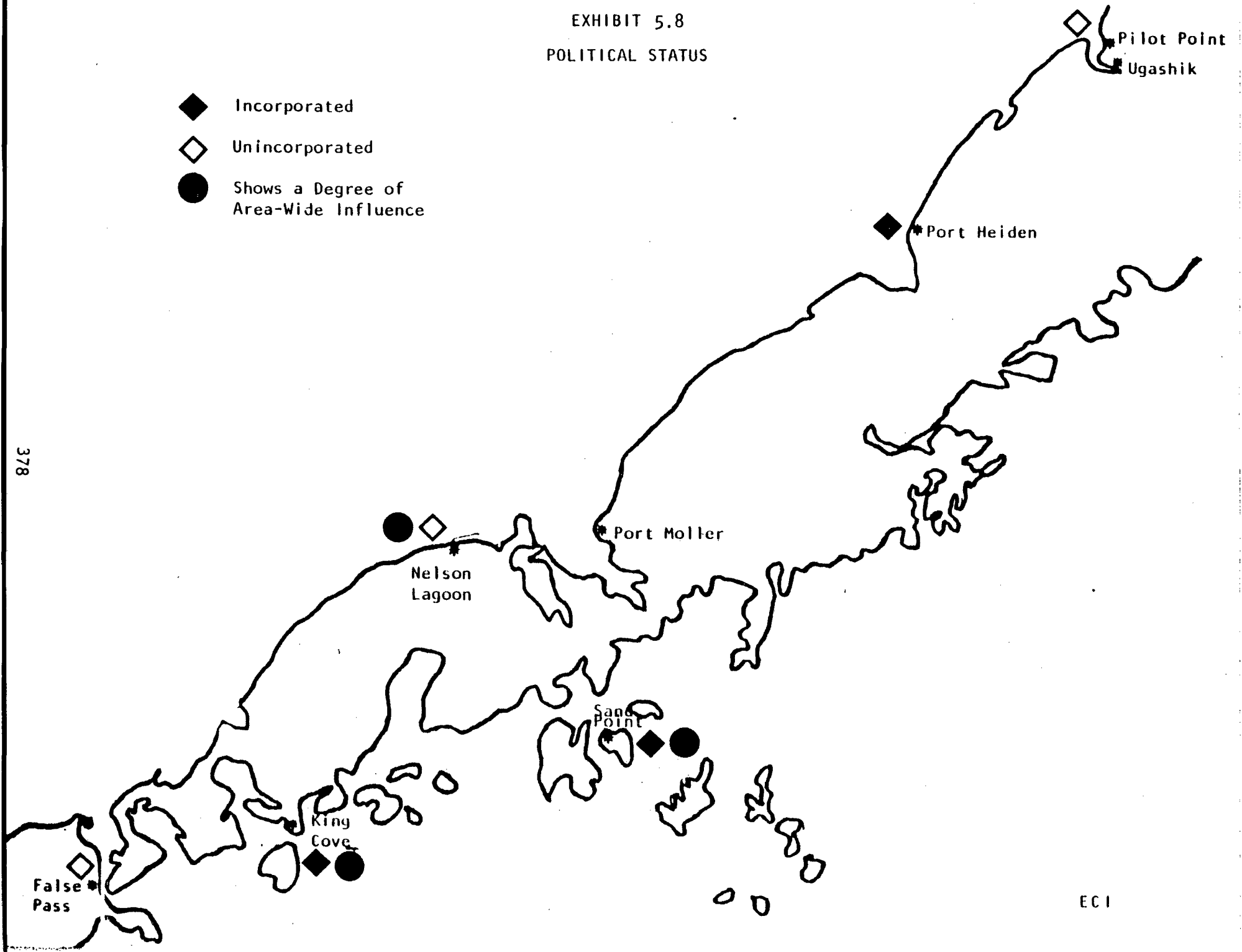


EXHIBIT 5.8  
POLITICAL STATUS

- ◆ Incorporated
- ◇ Unincorporated
- Shows a Degree of Area-Wide Influence



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TABLE 5.6  
SOCIAL AND POLITICAL ORGANIZATIONS

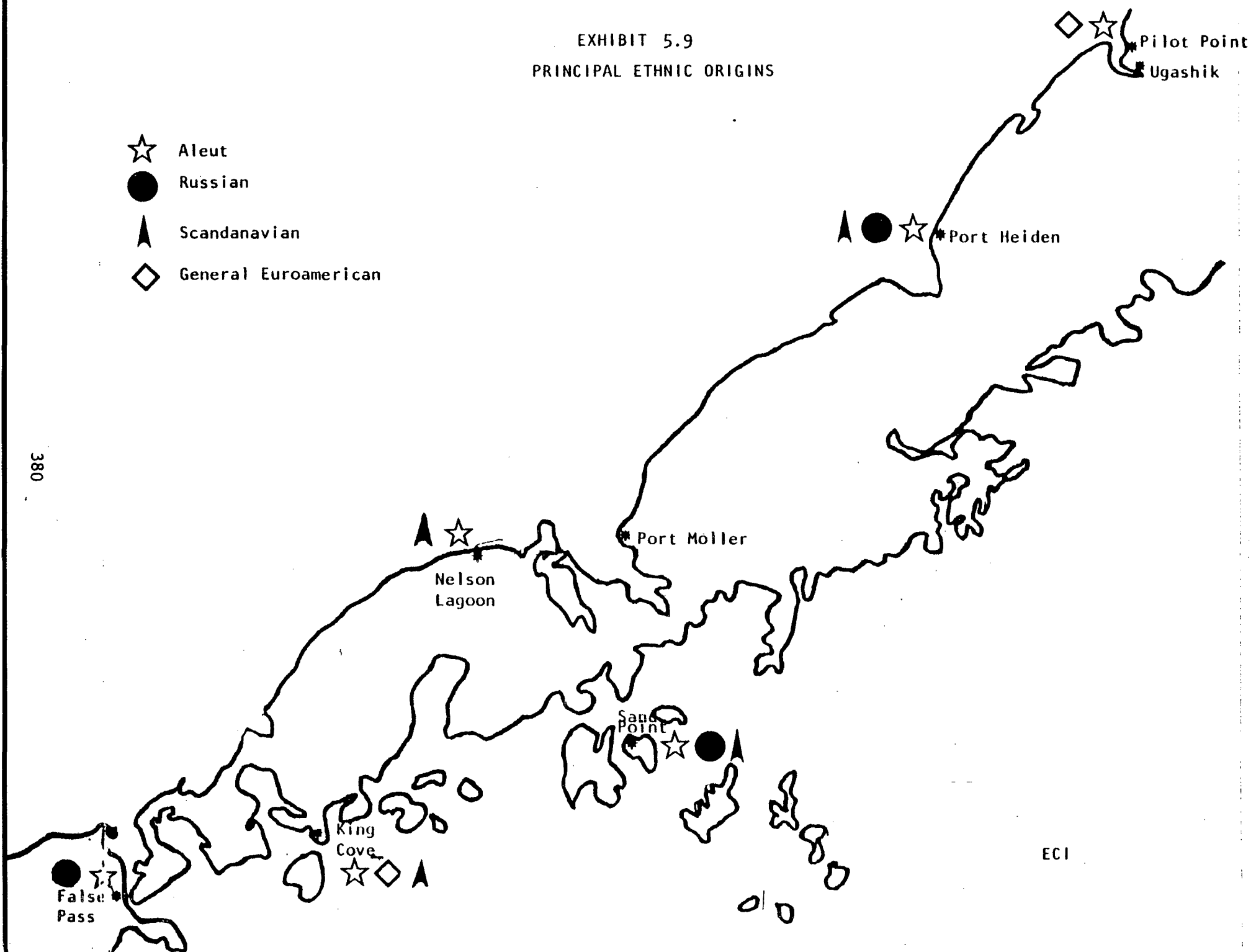
	Decision-making or Policy Groups	Others
Pilot Point	Pilot Point Village Council	Pilot Point Native Corporation; Health Clinic; local school advisory committee.
Port Heiden	Port Heiden Village Council; City Council	*Bristol Bay Area Health Corporation; *Alaska Peninsula Corporation; Port Heiden School Committee; *Lake and Peninsula School District.
Nelson Lagoon	Village Council	Village Corporation; local school committee; *Aleut Corporation; *Peninsula Marketing Association.
False Pass	Village Council	Local school advisory board; False Pass Corporation; *Aleutian/Pribilof Islands Association; *Aleut Corporation.
King Cove	City Council	School Board; Planning Commission; Health Board; King Cove Village Corporation; Belkofski Corporation; *Regional Corporations; Women's Club; *Peninsula Marketing Association.
Sand Point	City Council; Planning Commission	School Board; Indian Education Committee; Johnson-O'Malley Committee; Health Board; Lion's Club; Women's Club; *Peninsula Marketing Association; 3 Village Corporations: Shumagin, Sanak and Unga.

\* Area-wide organizations



EXHIBIT 5.9  
PRINCIPAL ETHNIC ORIGINS

- ☆ Aleut
- Russian
- ▲ Scandanavian
- ◇ General Euroamerican



In the religious realm, Russian Orthodoxy is historically common to all the communities, though the degree of association with or practice of it varies. In addition to Russian Orthodoxy, there is fundamentalist belief in some communities, and Baptist belief and Roman Catholicism in Sand Point (see Exhibit 5.10). False Pass to some degree also adheres to traditional Aleut beliefs. For the most part, the region is fairly secular, with Russian Orthodoxy playing a minimally active religious role, but still constituting a major core belief system for many residents.

Formal education is regarded differently among the communities. In Sand Point and Port Heiden formal education is regarded very highly. However, the other communities tend to stress the importance of practical skills, in particular fishing skills.

## 5.2 LINKAGES

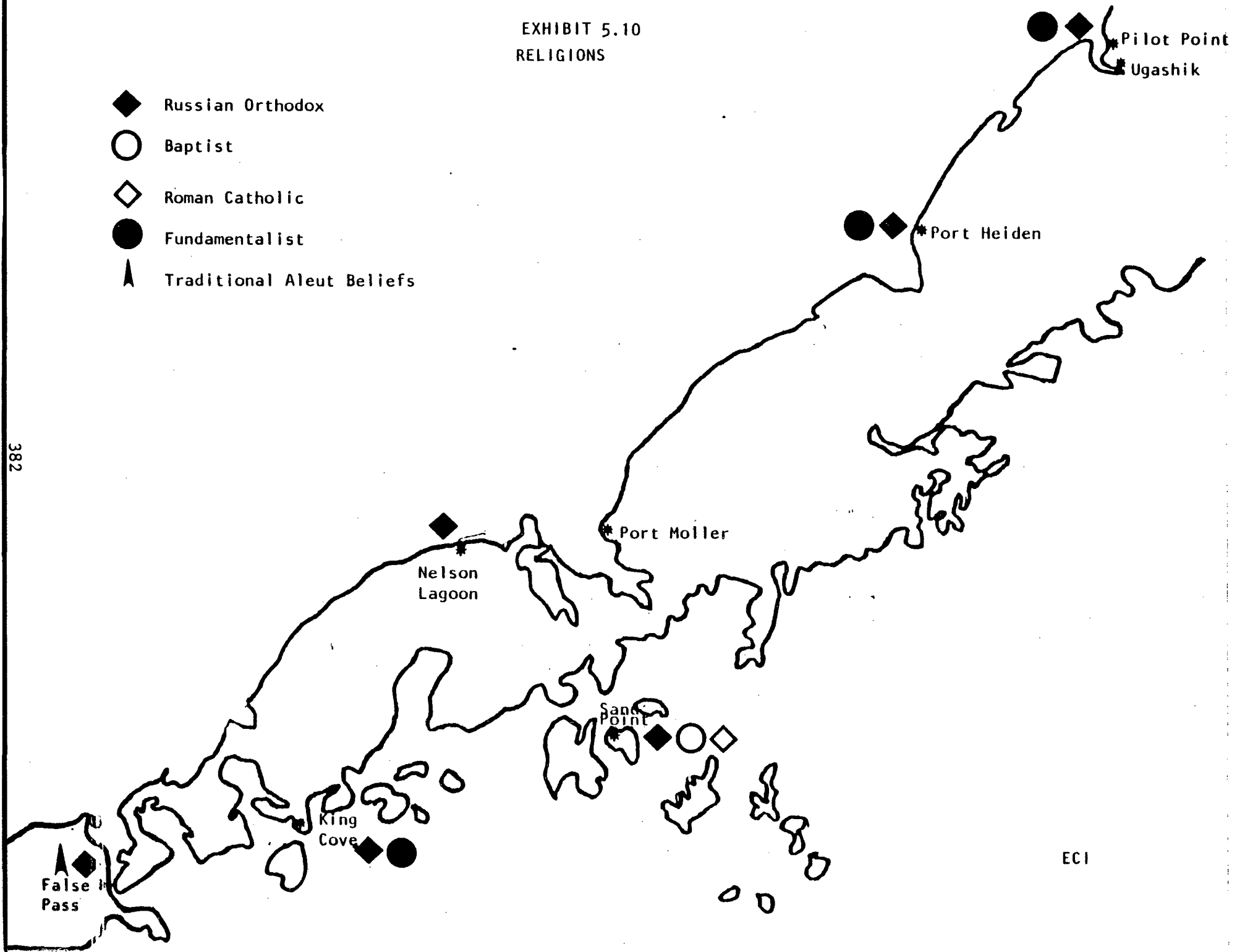
By linkages we refer to institutional and interpersonal ties between communities through which mutual interests and concerns are manifested and nurtured. The most important linkages that relate communities in the study area to each other can be divided into the following categories: economic, political, social, and cultural. By linkage we mean more than merely sharing an orientation or institution; we mean explicit interaction between members of communities for either institutional or personal reasons. Linkages can vary in a number of other ways; for example, length of time, number of community residents involved, whether or not resources are exchanged, level at which linkage occurs, and intensity of feeling associated with a given linkage. In the discussion that follows, the relative strength of linkages between the communities is assessed based primarily on the summed number and quality of linkages that occur between a given pair of communities. The ranking is characterized as high, medium, low, and none.

For purposes of this discussion, the linkage rankings are defined as follows:

- High - significant linkage in two or more categories
- Medium - significant linkage in at least one category and non-significant (but some) linkage in two other categories
- Low - non-significant (but some) linkage in at least one category
- None - no linkage

EXHIBIT 5.10  
RELIGIONS

- ◆ Russian Orthodox
- Baptist
- ◇ Roman Catholic
- Fundamentalist
- ▲ Traditional Aleut Beliefs



Within each category the significance of the linkage is assessed based upon the best available qualitative information supplemented by the consultant's experience in this area.

In examining linkages in the study area, it is important to note, once again, that communities fall into two distinct regions. The communities of Sand Point, King Cove, False Pass, and Nelson Lagoon fall within the Alaska Peninsula region while the communities of Port Heiden, Pilot Point, and Ugashik are found within the Bristol Bay region. The previous discussions, concerned as they were with fishing, the fundamental economic base of the communities, were focused using the Alaska Department of Fish and Game Management Areas used for biological management of the salmon resources and the Commercial Fisheries Entry Commission areas for salmon limited entry permits. Those two demarcational areas are also nearly coincident with the regional boundaries. The most important other boundary for determining regional membership of a given community is consideration of to which ANCSA regional corporation it belongs. The Aleut Corporation incorporates the four peninsula villages while the Bristol Bay Native Corporation incorporates the three bay villages. Because all of these boundary lines make the same basic division, it is reasonable to first discuss linkages between villages in each region before examining their extra-regional linkages.

The linkages between the four Alaska Peninsula communities are in the medium-to-low range. Part of this is a function of the significant size disparity between the two larger communities (Sand Point, King Cove) and the two smaller communities (False Pass, Nelson Lagoon), and part of it is due to the long distances and relatively poor transportation network between the communities.

In the economic category, all four communities are related through the Peninsula Marketing Association, the regional fishermen's price bargaining organization. However, at the level of individual vessel's fishing, one sees little evidence of linkage in that very few crewmen from the vessels of one town fish on vessels of other towns, and fishermen from all four communities tend to have fishing grounds which they share primarily with other fishermen from their own community. Exceptions to the community fishing grounds pattern are the South Unimak fishery, the Port Moller fishery, and the Pavlof Bay fishery. Only in the first two of these do fishermen from all four communities often interact on the same grounds at the same time. Sand Point and King Cove fishermen interact frequently in the Pavlof Bay fishery.

Linkages are more numerous in the processing sector

than in the harvesting. King Cove is the regional office for Peter Pan Seafoods and the site of their largest cannery. There are Peter Pan presences in both False Pass and Sand Point in the form of cannery personnel and facilities. Nelson Lagoon, as a community as well as individual fishermen, has a high degree of dependence on the Peter Pan cannery at Port Moller for storage, transportation, vessel services, communication, and fish buying; however, unlike the other communities, there are no Peter Pan personnel within the community. The linkages which are required to effectively run the multi-plant operation are used by members of the communities to mutually interact. Peter Pan frequently allows people to travel on chartered aircraft and tenders, when they are going to another community on corporate business. This points to transportation as another important and perhaps the crucial physical linkage between the communities. All are served by the same two air carriers, and air transportation for all four communities is the predominant mode of travel in the area and is routed through Cold Bay. Since everyone moves to their home community via Cold Bay, this airline terminal is the most vital and important area for interpersonal and institutional linkages in the region. The village of Nelson Lagoon is significantly more isolated from the other communities and has no regular scheduled air service. Consequently, it has the fewest interpersonal travel linkages with the other communities. With the exception of Nelson Lagoon, the other three communities are served by the same oil and barge companies.

In other areas of economic activity there are also relatively few linkages. Commercial establishments, where they exist, tend to be community-specific; thus, stores do not have branches in other communities. One exception is Peter Pan's provisioning operation. Also, King Cove and Sand Point are home to different electronic repair firms which serve the other communities.

In sum, although there is a significant degree of similarity in the economic characteristics of the communities, there are relatively few economic linkages between them.

Turning to the political category, there are a greater number of linkages than in the previous one although they are still below a medium level. All of the communities are members of the Aleut Corporation; however, as indicated in sections 4.1 through 4.4, the Aleut Corporation is of little significance to local community residents. The Aleutian/Pribilof Islands Association is significantly more active and salient in the daily lives of the communities as APIA is involved with health programs, housing, and training

of community residents. However, governance and actual programs of APIA provide few opportunities for community linkage at either institutional or interpersonal levels.

In addition to this basic foundation of political institutions shared by all four communities, there are several linkages which tie two of the communities together. The cities of Sand Point and King Cove share a planner and a manager which requires coordination between the two city councils. Beyond that there is no evidence of linkages through integrated electric, water, health, education, or other city services management between the two cities. There are no formal governmental or commercial linkages which bring the significant political actors in the two communities together. The communities of False Pass and Nelson Lagoon are both members of the Aleutian Regional Education Attendance Area (REAA) and have had members on the regional governing body. This has provided only a minor additional political linkage between the two villages.

The recently formed Aleutian East Coast Resources Service Area should provide an additional political arena for interpersonal and institutional interaction among some of the communities.

In sum, although there are a number of important institutional co-memberships that provide opportunities for political linkages to be established, the actual level of such linkages is non-significant overall, with the exception of King Cove and Sand Point where a significant level political linkage occurs.

It is in the social arena that the greatest number of linkages exist among the communities. This is largely due to intermarriage between residents of the communities causing resettlement and subsequent significant levels of interaction. The strongest ties of kinship nature between the villages are between King Cove and False Pass and there is a high degree of visiting between these two communities. Other kinship linkages tend to be low (King Cove-Sand Point, Sand Point-Nelson Lagoon) or medium (King Cove-Nelson Lagoon, False Pass-Nelson Lagoon, False Pass-Sand Point) in strength.

Social linkages between False Pass and Nelson Lagoon in the form of children and adolescents from the villages is enhanced by their mutual membership in the REAA. Regional school district activities provide travel opportunities to bring the students together. In a similar fashion, athletics provide a significant avenue for adolescents from King Cove and Sand Point to interact with one another. Volleyball and

basketball, both for boys and girls, are high school activities of immense social importance in these communities--not only as opportunities for interaction but also as opportunities for identity formation of young people. Strong identification with home communities are fostered through these activities for youth and adults alike. At the same time, these events provide the opportunity for significant interpersonal linkages to be established and continued between the two communities of a strictly social nature.

Intermarriage and visiting patterns between kinsmen, including in-laws, provide the foundation for the social linkages between the communities--the most important category of linkage between the four communities.

The fourth and final category of linkage is cultural. The major potential dimension of linkage between the communities in this category would be in the religious realm. Although all have some individuals who practice the Russian Orthodox faith, there is no priest, regional lay association, or other activity which provides for intercommunity ties. Each community's level of Russian Orthodox religious activity is determined locally or through linkages to communities outside the study area, i.e., Sand Point has Russian Orthodox linkages with Chignik through sharing a priest. Religious activities by other faiths do not exhibit linkages although King Cove and Sand Point have experienced missionary proselytization from different Protestant sects.

There are no ethnic associations (e.g., Alaska Native Brotherhood, Alaska Eskimo Whaling Commission) in the area and consequently are no opportunities for linkages to share cultural traditions. APCA, through its elder's conference, has provided the only recent opportunity for this type of cultural linkages between the communities and it was highly valued. Likewise, there are no voluntary associations which might provide cultural linkage.

Cultural linkages have latent potential for high significance in these communities but they have yet to show any importance in the region.

Turning to the Bristol Bay region, two important initial qualifiers are necessary to keep in mind. First, the villages of Port Heiden, Pilot Point, and Ugashik are marginal to the rest of the Bristol Bay region and, as noted in Section 4.6, Port Heiden may emerge as a southern Bristol Bay subregional center. The second qualifier is that Port Heiden is the one community which is not congruent in its alignment of ADF&G management areas, CFEC areas, and ANCSA regional corporation

areas. It falls within the ADF&G Peninsula Area but it is a member of the Bristol Bay Native Corporation, the Bristol Bay Native Association, and the Lake and Peninsula REAA; in addition, between 67% and 75% of the community's salmon earnings are taken in the Bristol Bay area management waters. Although it is, in some sense, a community oriented toward two regions, there is no question that Port Heiden's fundamental orientation is toward Bristol Bay and not the peninsula.

Unlike the peninsula villages, the economic linkages between Pilot Point and Port Heiden are significant. This is largely due to the sharing of fishing grounds--there is a very high degree of overlap in the areas in which they fish. Both communities are supportive of AIFMA and its role in price negotiations. There is less linkage in the processing sector than in the harvesting but there is a low level due to the sale of red salmon to the same processors. There are no linkages between other economic activities as each community follows their own separate path, led primarily by a core entrepreneur in each village. This includes stores, fuel, and other services. The transportation sector, like the fishing sector displays Port Heiden's anomalous position. Port Heiden is a major stop for the medium-size scheduled air carrier that serves the Alaska Peninsula, but it does not connect with any other Bristol Bay community. However, many residents prefer to use smaller carriers which link them to the King Salmon air transportation system. Pilot Point-Ugashik is linked north to King Salmon primarily by contracted or chartered service.

In the area of government linkages, there is also a medium-level of ties fostered by the mutual membership in BBNC, BBNA (and its housing and health subsidiaries), and the REAA. It is noteworthy, however, that the village corporations of Port Heiden and Pilot Point have not established any joint business arrangements, but rather have sought business associations with other village corporations: Pilot Point with Egegik and Port Heiden with South Naknek and several Lake Iliamna villages. Both communities have had members serve on the Bristol Bay Coastal Services Resource Area board and the Bristol Bay Cooperative management planning group. There are no formal ties between the village councils of the two communities.

There is a moderate level of social linkage between the two communities due to intermarriage. However, at present in both communities there are stronger kinship linkages to other communities. Cultural linkages are few between Port Heiden and Pilot Point, but both share an orientation to Russian Orthodoxy and utilize the Chignik priest for services.



Extraregional linkages of the two sets of communities are revelatory in that for neither region does the other region play a significant role in extraregional linkages. In the peninsula villages the major extraregional linkages are to the Aleutian Islands region and, to a much lesser extent, the Chignik region. Linkages with the Aleutian region are strongest in the political sector since the peninsula villages are linked with the island villages in the Aleut Corporation and in APIA. False Pass and Nelson Lagoon are linked through the REAA to the smaller Aleutian villages (Akutan, Atka, Nikolski) while King Cove and Sand Point are linked to Unalaska socially through high school activities and, to a lesser extent, economically through King Cove and Sand Point fishermen occasionally selling crab in Unalaska. False Pass has the strongest links to the Aleutian villages through kinship ties and cultural orientations. Sand Point has a low-degree linkage with the Chignik villages due to harvest of Chignik stocks and Chignik vessel owners' use of Sand Point for winter storage. It should be noted that Sand Point and King Cove have a small social linkage to Bristol Bay due to athletic competition of high school teams with teams from Dillingham. More distant extraregional linkages for the Alaska Peninsula communities are strong to Anchorage (home base for the Aleut Corporation, APIA, and the REAA) and to Seattle (home base for Peter Pan Seafoods and vessel and gear manufacturers). These linkages are predominantly economic and political in nature.

For the Bristol Bay communities the most important local extraregional linkages are to the Chignik region villages on the southside of the Alaska Peninsula. Although the Chignik villages fall within the BBNC and BBNA boundaries, they have a completely separate fishing area, use different gear (purse seine) than used in Bristol Bay, have different limited entry permits, and are oriented to Kodiak as a regional center. Consequently, they are even less integrated into the Bristol Bay region than are Port Heiden and Pilot Point-Ugashik. For these reasons it is reasonable to consider Chignik a separate region. The linkages of Port Heiden and Pilot Point to Chignik villages are medium strength and are predominantly in the social and cultural categories including kinship relationships, intermarriage, and sharing of religious personnel and rituals. Port Heiden and Pilot Point also have significant ties with Anchorage in the economic and social categories. As noted in section 4.5, a large segment of the Pilot Point summer population resides in Anchorage for a significant part of the year.

In sum, the study area as a whole has little integration in that communities from the two district regions have

virtually no local, regional, or distant linkages through which interaction occurs with communities in the other region. The one linkage that has occurred historically has been one of deep controversy and conflict between the two regions. The annual harvest of red salmon in the Shumagin and South Unimak fishery has been conceptualized and managed as a portion of the projected Bristol Bay run since 1980. Fishermen from both regions are unhappy with the arrangement, both feeling that they should receive a larger proportion of the available run. This may be the most important linkage between the two regions during the entire historic period.

### 5.3 TRENDS

The purpose of this final section is to summarize trends in the fisheries and communities of the study area as a whole over the seven-year period from 1975 to 1981. When necessary, important district regional and local trends will be noted. Projections about future trends are not included since they are the concern of a separate SESP study. Trends in the fisheries will be discussed first and then linked to the discussion of trends in the communities.

The major trend in fisheries has been, of course, the tremendous increase in size of the salmon runs. The major surge occurred in 1979, and catch in 1980 and 1981 were roughly comparable. The price paid per pound for red salmon rose dramatically from 1975 to 1979 but then fell back considerably in 1980 and 1981. Prices for the other major salmon species of importance in the study area, pinks, also rose but not as dramatically as for red salmon.

Besides salmon, the other fisheries of importance in the study area are the king and Tanner crab fisheries conducted in the south peninsula area by the fishermen of King Cove and Sand Point. Landings and earnings climbed fairly steadily in both communities from 1975 to 1978. Both landings and earnings from crab dropped in King Cove in 1979 and showed only a slight rebound in 1980. In Sand Point, growth in landings and earnings continued in 1979 and 1980. The major cause for the disparity between the two communities is that the number of vessels fishing crab in Sand Point continued to rise, increasing by 38% from 1975 to 1979, while the number of King Cove vessels did not. Thus, Sand Point was able to garner an absolute as well as proportional increase in their share of the declining crab harvest.

Although the important new herring sac roe fishery emerged in western Bristol Bay during the period, only a few

of the Port Heiden and Pilot Point fishermen participated in it. Expectations for the growth of a bottomfishery in the Gulf of Alaska during the latter portion of the period did not pan out with the few efforts made by Sand Point fishermen to catch cod measuring little significance.

A major potential ceiling on the number of fishermen in the salmon fisheries of the study area was established by the state's limited entry program which set a maximum number of the units of gear that could be fished. Despite these limits, effort in five of the seven communities in the study area increased as measured by units of gear reporting landings. The last year of the period for which statistics are available showed the largest number for any year in the period (see Exhibit 5.1 ). This was accomplished in two major ways-- multiple permits awarded to fishermen in the peninsula have become less concentrated, and dormant permits in the Bristol Bay area have been activated. Total numbers of permits held in a given community have stayed relatively constant over the period with no clear evidence of increase or decrease.

The areas and times fished have expanded significantly over the period due to the relaxing of ADF&G regulations. Only the crab fishery saw a reversal of this trend in the last two years of the period as increasing numbers of fishing vessels and declining numbers of crab led to a reduction in the length of the fishing season. There has, however, been a significant reorganization of effort by gear type in the peninsula salmon fisheries. Purse seine gear became the predominant harvester, steadily increasing its proportion of the total catch in the region, primarily as a result of the concentration of more, larger seine vessels in the South Unimak fishery prosecuted in June.

As the individual community sections indicated, there has been a dramatic upgrading of vessels and their fishing capabilities in all of the communities except Pilot Point during the period. Larger vessels, greater horsepower, more hold capacity, and more electronics are characteristic of vessel upgrading. The unique trend in Nelson Lagoon identified was the addition of jet boats to aid in the set gillnet fishery. The only major trend in gear type during the period was found in the peninsula area where limit purse seiners were added to the inventory supplementing beach seines. In other fisheries, more gear (as insurance) has been added but since there have been no major regulatory changes allowing additional gear, there has been no trend other than the additional gear that has accompanied the additional units into the fisheries.

Trends in the communities are substantially influenced by trends in the fisheries since they are the predominant economic base in the study area. Trends in the communities will be examined in demographic, economic, political, social, and cultural sectors.

Demographic growth has been a major trend in the study area. Sand Point, King Cove, and Port Heiden have all had significant growth during the latter half of the period; False Pass and Nelson Lagoon have experienced some growth; only Pilot Point has not grown and the number of year-round residents in this community may have declined. The major components of growth are natural increase, immigration, and return migration. All three communities exhibiting high growth rates have experienced growth due to the first two factors and King Cove and Sand Point have also experienced growth due to return migration. The trend of outmigration of young people in the 1980s and early 1970s has been reversed for virtually all communities as new family formation, new household, and children provide evidence of the influence of the fisheries' boom on local demographics. The construction of new homes on purely local initiative or through federal programs has been a major trend in all communities.

The economic sector is, of course, dominated by the fisheries. Increased employment opportunities for local residents have accompanied the increasing numbers of vessels and units of gear fishing. Fishing incomes increased spectacularly through 1979 everywhere, but fell back in Bristol Bay in 1980 before climbing again in 1981. Peninsula salmon earnings also fell in 1980 but not as dramatically. However, there was a noticeable decline in crab earnings in 1979. Noticeable trends in the processing sector are apparent over the period. One is substantial increase in the amount of equipment and personnel needed to process the huge runs. A second trend is the increasing amount of the salmon run going to the fresh and frozen markets and a decline in the percentage of salmon canned. This, in turn, was responsible for the price increases which occurred through 1979. A third trend in the peninsula is for floating-processors to cut into the percentage of the total catch processed by Peter Pan. This became apparent during the 1981 season so it may be overstating the case to call it a trend. Finally, in all communities there was a trend toward reduced local participation in the processing sector largely as a result of household earnings due to fishing. Females (wives, daughters) no longer needed to supplement earnings through employment in the canneries.

There is little evidence for the growth of secondary,

fisheries support-related activity in these communities. Electronic technicians have been established in two communities and a local processing enterprise has started and grown in another, but commercial stores and services have not expanded significantly except in the community of Sand Point. Virtually all major household purchases, as well as most groceries, are purchased from sources outside the study area. Nelson Lagoon does deviate in that several cottage-type support enterprises have appeared in that community.

There has been some growth in employment opportunities due to the expansion of governmental services in the area. The regional and local corporations have provided few local job opportunities. Considerably more employment opportunities have been forthcoming from the establishment of schools in all communities in the area, but most of these jobs are part-time. Federal cutbacks which began to take hold in 1981 brought a decrease in the number of non-fishing jobs available in these communities.

It is difficult to track subsistence trends in the study area due to the poor data base. Subsistence harvests of salmon do appear to have declined with the increase in commercial salmon earnings; however, 1980 saw an increase in the Bristol Bay subsistence salmon harvest likely due to a major drop in earnings (ADF&G 1981d). Caribou, the other major contributor to subsistence harvests in the communities, are even harder to track down, and it is not possible to locate a trend for this resource. One of the major problems is that the caribou herds have grown over the period and thus were more abundant and available in the latter portion of the period. Secondly, the recent introduction of three-wheeled motorcycles has apparently increased access to caribou. It should be noted that these characterizations of overall trends are linked to households participating in the commercial harvesting of salmon. The households which are not headed by permit holders may have had to increase subsistence harvest somewhat during the period to offset the eroding effects of inflation and rising energy costs on household earnings.

The political sector has changed a great deal in these communities over the period. In this sector, unlike the others, expansion of services and growth in bureaucratic institutions has not been primarily driven by growth in the fisheries. Rather, the growth in local services and governmental presence in the communities is linked primarily to state oil revenues and federal revenues. In King Cove and Sand Point, local revenues have played a part as well. Small boat harbors, bulk storage fuel tanks, improved airport facilities, improved roads, clinics, schools, centralized and

expanded electrical generation systems, improved water systems, household telephones, satellite TV, planning and zoning ordinances, and increased reporting requirements are additions to these communities which occurred over the period. The relative contribution of state and federal revenues to these communities changed over the period with federal funds being relatively more important in the early years with the latter years seeing state funds become absolutely and proportionally greater as Prudhoe Bay oil revenues began to be received by the state. Local revenues in King Cove and Sand Point also increased since they were largely derived from taxes on fish and shellfish purchased by processors from fishermen.

In the social sector, a number of trends are observable. The population has been concentrated into fewer communities but the amount of interaction among communities, particularly between communities in the same region, has increased. Household size has decreased as the nuclear family has supplanted the extended family as a living arrangement. Female-headed households have also increased in most communities, in part due to some increase in divorce. Mutual assistance appears to have declined and has been replaced by cash exchange. House and vessel construction and gear maintenance appear to be examples of this trend which is more evident in the larger communities of Sand Point and King Cove than it is in the smaller communities. Although there is no identifiable trend in alcohol use and abuse, drug use (marijuana and cocaine) was reported to have increased in several communities. Stratification patterns (the degree of disparity between segments of the population in income and wealth levels), have altered as greater degrees of difference in income and wealth between households in communities have appeared because some fishermen have done much better than others in harvesting the increased salmon runs. In the larger communities, crab harvests are a significant contributor to income differentials.

The final sector for consideration is the cultural one. Cultural components in which trends are observable include language, ethnic identity and self perception, interethnic relations, education-socialization, religion, recreation, and values.

Language use throughout the study area has witnessed an increase in the use of English and a decline in the use of Aleut and Aleutiq.

The identity and self perception of native residents in the study areas has been enhanced over the period due to the creation of the local and regional corporations which have

provided title to local lands and the power to control significant trajectories of local development. Particularly among the generation under 30, there is a heightened sense of ethnic distinctiveness and pride. Interethnic relations appear to have become more equal over the period; however, there are recent evidences of increasing tensions between native and non-natives in three communities. Several communities have taken explicit steps to limit the possibilities for additional unwanted settlement by keeping new lands under native corporation control rather than seeing them transferred to the city government as required by ANCSA.

Formal education and local control of it has increased significantly over the period. The percentage of high school graduates increased dramatically following the creation of local high school programs; however, with the exception of Sand Point, there is no evidence of a trend toward going on to postsecondary education.

In the religious area, the major identifiable trend is the gradual growth of non-Orthodox Christian sects in Sand Point and King Cove. Elsewhere, the Russian Orthodox faith continues to persist as the primary religious orientation although there appears to be increasing secularization in several communities.

Recreational patterns have changed substantially over the period as television, three-wheeled motorcycle travel, and long distance trips to locations such as Anchorage, Seattle, California, and Hawaii, have become commonplace, particularly for the wealthier segments of the population.

Changes in values are not readily discernible with a few exceptions. Local identity has increased. Non-local knowledge and orientation, at least for vocations, has increased. Desires for material amenities appear to have increased. There may be some increase in individualistic motivations and decline in a sense of responsibility for kinsmen and other community residents, but this is only apparent in two communities, Sand Point and Pilot Point. Despite these changes, core values including fishing as a livelihood, responsibility to family and close kinsmen, local determination, and subsistence appear to have retained their strong place in the lives of residents of these communities.

TECHNICAL APPENDIX



TABLE A-1

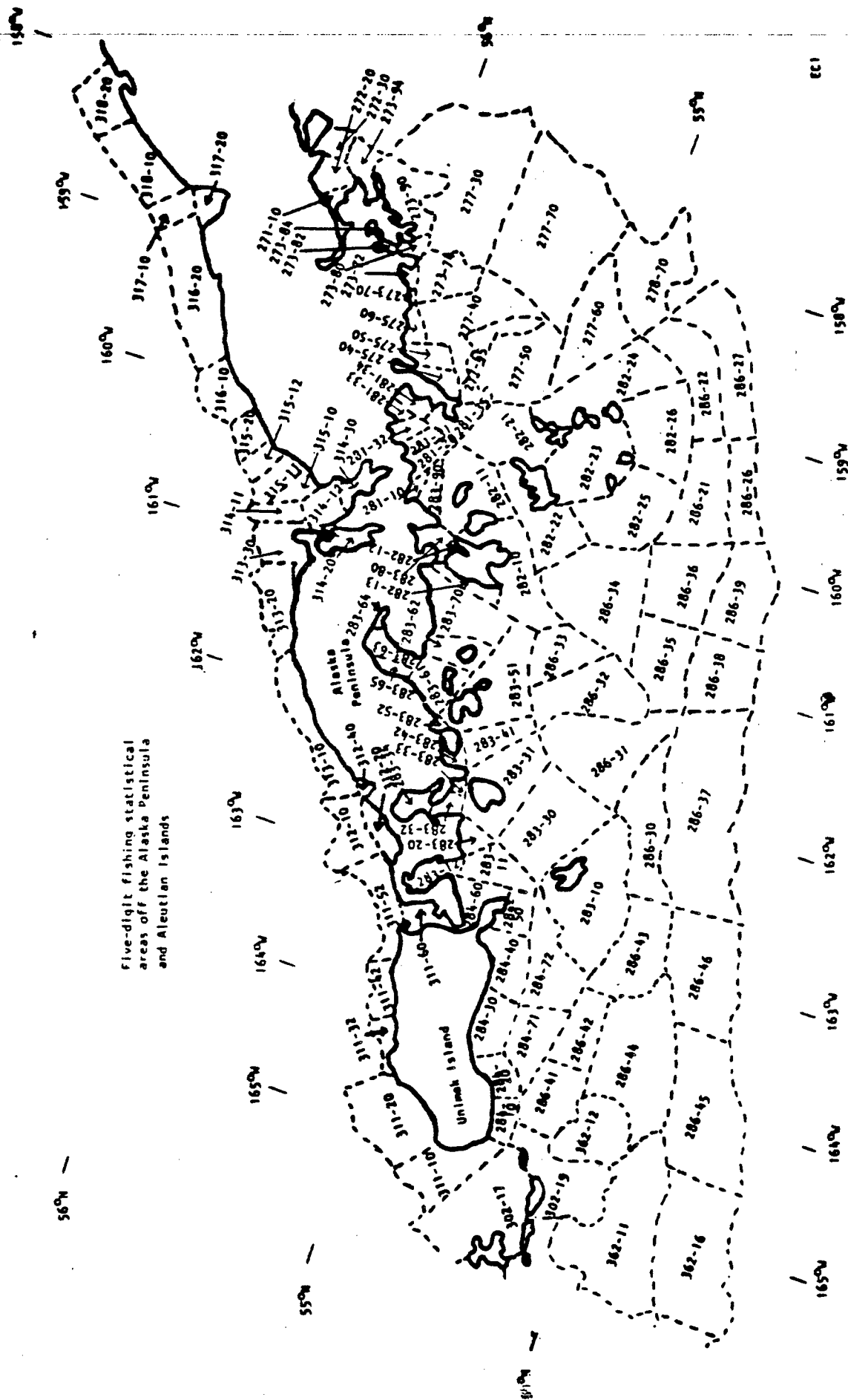
1975 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&amp;G

5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR & STAT. AREA	MONTHS																			Total		
	May					June				July				August				September			October	
STAT. AREA	STATISTICAL WEEK																			Total		
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40			
Purse Seine																						
281 - 34								7														
282 - 11			29	178																		
283 - 12									1													
- 33												33										
- 51												14										
- 63											13											
- 64											118											
- 80								1														
- 90								1														
284 - 20				1																		
- 40			3	6	41																	
- 50			6	2																		
- 60				17	82																	
311 - 52									5													
312 - 20									2	6	5											
- 40									1													
Total			38	204	123			9	9	6	136	47										
Drift Gillnet																						
282 - 10				*																		
283 - 11				2																		
284 - 20				6																		
- 40			10	36	73																	
- 50			4	5																		
- 60			28	156	170																	
313 - 30					4	18	8	5	10		2	7	10	24								
314 - 12				1	1	*	*															
315 - 10				*	1	41	8	11	11	6	8	15	20	12	2							
- 11				*	5			17	15	8	10	55	40	13	1							
- 12								1	9	1	4	9	3	*								
- 20						64	28	10														
316 - 10						20			2	1												
- 20									1													
317 - 20			2									2	3	12								
Total			44	206	254	143	44	44	48	16	22	83	73	47	27							
Set Gillnet																						
281 - 31								2														
- 34								4														
- 35								3														
282 - 10			2	3																		
- 11			*	*																		
283 - 90								1														
284 - 60					*																	
313 - 30				3	19	38	8	8	14		3	8	8	23								
314 - 12				1	4	3	2															
315 - 20					*																	
316 - 20				*	*																	
317 - 20			*	2	1	1						*	*	2								
Total			2	9	24	42	10	18	14			3	8	10	23							
Hand Troll																						
313 - 30												*										
Total												*										

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.



Five-digit fishing statistical areas off the Alaska Peninsula and Aleutian Islands

TABLE A-2

1975 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR 6	M O N T H S <sup>1</sup>																			Total
	May		June		July			August				September			October					
STAT. AREA	STATISTICAL WEEK																			Total
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
<b>Purse Seine</b>																				
281 - 34								2												2
282 - 11			19	33																52
283 - 12									1											1
- 33												16								16
- 51													3							3
- 63												2								2
- 64												43								43
- 80								5												5
- 90								4												4
284 - 20				1																1
- 40				2	5	4														11
- 50				2	1															3
- 60					9	30														39
311 - 52									3											3
312 - 20									11		5	5								21
- 40									1											1
Total			24	49	34			11	16		5	50	19							207
<b>Drift Gillnet</b>																				
282 - 10				1																1
283 - 11				2																2
284 - 20				3																3
- 40			6	20	26															52
- 50			4	3																7
- 60			37	169	120															326
313 - 30					7	18	16	16	41			18	23	22	45					206
314 - 12				7	3	1	1													12
315 - 10				2	1	50	5	30	47	23	44	38	36	26	5					307
- 11				1	5			37	40	25	31	65	57	22	3					286
- 12								1	22	3	11	11	4	2						54
- 20						41	30	9												80
316 - 10							11			5	2									18
- 20										3										3
317 - 20			10									10	11	14						45
Total			57	208	162	121	52	93	158	53	86	142	131	86	53					1,402
<b>Set Gillnet</b>																				
281 - 31									1											1
- 34									6											6
- 35									5											5
282 - 10			1	9																10
- 11			1	1																2
283 - 90									2											2
284 - 60					1															1
313 - 30				3	24	41	20	16	53			26	34	22	48					287
314 - 12				4	5	6	3													18
315 - 20					1															1
316 - 20				1	2															3
317 - 20			3	6	9	6						5	4	7						40
Total			5	24	42	53	23	30	53			31	38	29	48					376
<b>Hand Troll</b>																				
313 - 30													1							1
Total													1							1

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-3

1976 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G

5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR & STAT. AREA	M O N T H S																																								Total						
	May					June					July					August					September					October																					
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40									
Purse Seine																																															
281 - 20									*		18	7																																25			
- 31								9	5		17																																		31		
- 33								4																																					4		
- 34						4				1			88																															93			
- 35					*	1				8			52																															61			
282 - 10												56	59																															115			
- 11		11	48	164	216								47																															486			
- 12											160	137	142																																439		
- 13													11																																11		
283 - 11			21																																										21		
- 20											14																																			14	
- 42													32	21																															53		
- 51												120	190	72																																382	
- 52													5	178																																183	
- 63											82	277	604	1132	443	112																															2,650
- 64											44	172	142	79	64																															501	
- 70											6				19																															25	
- 80						1	*			2	16	159	121																																299		
- 90						6							91	29																															126		
284 - 20				8		22																																								30	
- 40				52	80																																									132	
- 50				2																																										2	
- 60			5	17	45	34																																								101	
311 - 52										18																																				18	
312 - 20										19	31	86																																		136	
- 40										44	2																																			46	
314 - 20												3																																		3	
Total	11	74	243	348	61	18	210	515	1006	1814	1482	205																																	5,987		
Drift Gillnet																																															
283 - 11		2	22																																												24
284 - 40			2	153	221																																										376
- 50			2	36	75																																										113
- 60			243	322	353	34																																									952
311 - 60			1	10																																										11	
313 - 30			1	7	11	23	20	9	2	2	1	1	6	17	4																															104	
314 - 12		*	*		1																																									2	
- 20											5																																			5	
315 - 10						106	46	9	18	1	9	11	28	3																															231		
- 11						103	99	83	51	43	6	29	7	12																																433	
- 12						8	41		30	17	49	2	4																																	151	
316 - 10							192	112	88	91		33	9																																	525	
- 20								30																																						30	
317 - 20			1	5	5								*	6	5																														22		
318 - 20																																														3	
Total	2	272	533	666	274	398	243	194	154	65	76	61	37	6	*																													2,982			

Table A-3 (cont'd)

1976 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&amp;G

5-DIGIT STATISTICAL AREA IN THE W/S PENINSULAR MANAGEMENT AREA  
(Cont'd)

GEAR 6	M O N T H S <sup>1</sup>																			Total
	May		June			July				August					September			October		
STAT. AREA	STATISTICAL WEEK																			Total
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Set Gillnet																				
281 - 31					2	2														
- 32					2	*														
- 33								1												
- 34					44	49		5	13					4	1					
- 35					21	29								2	1					
282 - 10		1	*	5	*															
- 11			*	5	1															
- 13					4															
283 - 70					5	1		1												
- 80					13	5		*	6			1								
- 90					8	4														
284 - 40					1															
- 60		*	*	1	1	*														
313 - 30			2	11	26	35	31	14	23	9	9	3	9	24	6					
314 - 12		*	1	1	9	7	4	5	4	1	1	1	1							
- 20									2											
- 30						2														
316 - 20								*												
317 - 20			*	1	4	6	4	4				*	2	3		*				
318 - 20												1	*	*						
Total		1	3	24	141	140	39	30	48	10	10	5	13	27	6	6	2			

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\*Less than .5 MT.

ECI

TABLE A-4

1976 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR & STAT. AREA	M O N T H S																				Total										
	May					June					July					August						September					October				
	STATISTICAL WEEK																														
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40												
Purse Seine																															
281 - 20									1		3	2								6											
- 31								5	2		3									10											
- 33								3												3											
- 34						3			2			15								20											
- 35					1	3			3			10								17											
282 - 10											8	15								23											
- 11	18	49	64	34								9								174											
- 12									36	24	33									93											
- 13											2									2											
283 - 11			11																	11											
- 20										2										2											
- 42											5	5								10											
- 51											17	31	7							55											
- 52											2	24								26											
- 63								29	92	106	202	96	18							543											
- 64								23	67	52	20	7								169											
- 70								2				4								6											
- 80					4	2		4	8		30	29								77											
- 90						11					14	9								34											
284 - 20				1		4														5											
- 40				13	18															31											
- 50				2																2											
- 60			8	8	24	18														58											
311 - 52							3													3											
312 - 20								16	20	22										58											
- 40								14	3											17											
314 - 20										1										1											
Total	18	68	88	92	30	3	96	199	218	323	291	30								1,456											
Drift Gillnet																															
283 - 11	10	31																		41											
284 - 40		2	71	91																164											
- 50		3	22	35																60											
- 60		249	276	248	58															831											
311 - 60		1	8																	9											
313 - 30		12	18	14	22	21	20	9	8	9	7	16	32	11						199											
314 - 12	4	1		3						3		6								17											
- 20										3										3											
315 - 10					95	47	10	30	1	25	22	31	3							264											
- 11					69	62	80	57	46	15	30	10	23							392											
- 12					9	24		29	12	77	2	9								162											
316 - 10						64	55	33	71		37	8								268											
- 20							23													23											
317 - 20		3	26	20							2	13	13		2					79											
318 - 20															8			4	1	13											
Total	14	302	421	411	253	218	188	161	141	126	100	93	71	19	2		4	1		2,525											

TABLE A-4 (cont'd)

1976 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

(cont'd)

GEAR & STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June			July			August					September			October			
	STATISTICAL WEEK																			
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Set Gillnet																				
281 - 31					5	4														9
- 32					2	1														3
- 33								1												1
- 34					19	42		2	8						8	4				83
- 35					8	17									2	1				28
282 - 10		1	5	17	1															24
- 11			4	5	2															11
- 13					1															1
283 - 70					4	4		1												9
- 80					14	13		1	5			1								34
- 90					7	9														16
284 - 40					1															1
- 60		2	1	4	4	1														12
313 - 30			8	29	29	37	38	32	36	28	27	11	20	38	16					349
314 - 12		3	4	8	19	13	14	12	10	4	9	7	2							105
- 20									2											2
- 30						4														4
316 - 20							3													3
317 - 20			2	17	34	31	17	20				2	14	17		3				157
318 - 20													5	1	2					8
Total	6	24	80	150	176	72	69	61	32	36	21	41	56	18	13	5				860

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-5

1977 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Purse Seine

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June		July			August					September			October				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
281 - 00													35							35
- 20													26							26
- 31							10		6											16
- 34								8	8											16
- 35							4		4						1					9
282 - 11			53	69	94															216
283 - 11				5	3															8
- 12										12										12
- 20									19	8										27
- 42												7	49							56
- 51												125	1							126
- 52												194	205							399
- 61								13												13
- 62									7	192	204	121								524
- 63								7		14	442	137	109							709
- 64								9	29	257	294	156								745
- 70							9	3	46	24		13								95
- 80							17	7	16			3	15							58
- 90							3					154	79							236
284 - 40				18	16															34
- 50					1	8														9
- 60			2	20	54															76
311 - 52							31		41	64	13									149
- 60										3	6				19					28
312 - 20								*	14											14
- 40							16	10	42											68
314 - 20								35	22		10									67
Total			55	113	175		90	92	266	562	969	910	519		20					3,771

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.



TABLE A-6

1977 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADFEG 5-DIGIT STATISTICAL AREA IN THE W75 PENINSULAR MANAGEMENT AREA

GEAR: Purse Seine

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June			July			August					September			October			
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
281 - 00													5							5
- 20													2							2
- 31							2		13											15
- 34								4	3											7
- 35							2		5						4					11
282 - 11			29	15	14															58
283 - 11				1	1															2
- 12									4											4
- 20									3	1										4
- 42												4	12							16
- 51												20	1							21
- 52												37	49							86
- 61								3												3
- 62									4	102	88	48								242
- 63								18		7	139	34	28							226
- 64								11	17	130	109	67								334
- 70							9	1	22	10		3								45
- 80							12	11	20			1	13							57
- 90							4					25	10							39
284 - 40				8	6															14
- 50				1	3															4
- 60			3	24	18															45
311 - 52							9		7	23	5									44
- 60										1	4				7					12
312 - 20								1	6											7
- 40							5	8	6											19
314 - 20								6	5		2									13
Total			32	49	42		43	63	115	274	347	239	120		11					1,335

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

E-1

TABLE A-7

1977 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Drift Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June		July			August				September				October				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
284 - 40			*	44	46															90
- 50			15	85	72															172
- 60			12	252	252															516
311 - 52									2	3	*									5
313 - 10									1											1
- 30			2	1	2	9	9	*	4	3	4	3	13	33						83
314 - 12			1		3						1	*								5
- 20								12	17		5	1								35
315 - 10						32	95	15	19	7	8	6	12	4	2					200
- 11					38	73	244	90	53	34	26	47	39	34	2					680
- 12								*	1	2	1									4
- 20									2											2
316 - 10						83	61	100	3	12	9	4								272
- 20								6	39											45
317 - 20			2	5	9	1							3	10	3	1		1	35	
318 - 20												1	6	10						17
350 - 00				*	3	1	*													4
Total			32	387	425	199	409	223	134	62	56	63	63	71	40	1		1	2,166	

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.

TABLE A-8

1977 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Drift Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																			Total					
	May					June					July					August					September			October	
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40						
284 - 40			1	32	22															55					
- 50			16	66	31															113					
- 60			53	297	155															505					
311 - 52										1	2	1							4						
313 - 10										2									2						
- 30			2	8	5	8	11	1		11	10	19	14	26	37				152						
314 - 12			2		4							3	1						10						
- 20								9	9		2	1							21						
315 - 10						28	56	19	28	9	22	20	16	4	2				204						
- 11					31	54	127	93	93	63	48	73	53	45	4				684						
- 12								1	1	8	3								13						
- 20									4										4						
316 - 10						37	29	66	4	15	15	3							169						
- 20								2	33										35						
317 - 20			5	14	24	3							9	22	11	7		1	96						
318 - 20											2	8	22						32						
350 - 00				1	2	1	1												5						
Total			79	418	274	131	224	191	172	109	105	120	100	119	54	7	1		2,104						

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-9

1977 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Set Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June			July				August				September				October		
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
281 - 31							1		1											2
- 32					1															1
- 33			*	1																1
- 34				10	8		25	5	27					*	5	2				80
- 35				1	14		14	5	12						7	1				54
282 - 10			1																	1
- 11			2	1	5										1					9
283 - 63									6	22	8									36
- 70				2	2		10	1	2											17
- 80					3		5	1	11			4	2		4	1	1			32
- 90							1		*						2			1		4
284 - 60					3															3
311 - 52									*											*
313 - 30			2	9	11	39	60	20	11	8	2	22	8	19	16					227
314 - 12			1	3	8	7		2	6	1	1	2	1		*					32
- 20									2		2									4
- 30			1		1	1	14	2	1											20
316 - 20									*											*
317 - 20			1	3	6	5	2	2	3				1	2	2	*				27
318 - 20													*	2						2
Total			8	30	62	52	130	38	82	31	13	28	12	23	37	4	1	1		552

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.

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TABLE A-10

1977 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Set Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																				Total										
	May					June					July					August						September					October				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		42	43	44	45						
281 - 31							2		1																3						
- 32					2																				2						
- 33			1	3																					4						
- 34				8	7		20	5	24					2	18	2									86						
- 35				2	7		10	4	11						6	1									41						
282 - 10			4																						4						
- 11			11	2	2										5										20						
283 - 63									4	12	5														21						
- 70				2	2		11	1	2																18						
- 80					2		12	3	12			1	3		5	2	4								44						
- 90							3		1						5				1						10						
284 - 60					2																				2						
311 - 52									1																1						
313 - 30			4	36	21	46	66	43	33	24	9	48	31	41	33										435						
314 - 12			6	8	9	11		7	14	3	9	8	5		1										81						
- 20									1		1														2						
- 30			3		2	3	17	3	1																29						
316 - 20									1																1						
317 - 20			5	9	24	18	4	3	4				2	5	3	2									79						
318 - 20													1	6											7						
Total			34	70	80	78	145	70	109	39	24	57	42	54	76	7	4	1							890						

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-11

1978 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Purse Seine

STAT. AREA	M O N T H S <sup>1</sup>																Total			
	May		June		July			August				September			October					
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		38	39	40
281 - 10											28									28
- 20								1	103	32	79									215
- 31									5	9	13									27
- 32									9	7		6								22
- 33							*													*
- 34											84	65	10	6						165
- 35							11				50	31								92
282 - 10				11	8	9	19	27	27	63	162	127	16		1					470
- 11			82	94	93	97	121	262	307	254	260	504	65							2,139
- 12									9	5	136	91	19							260
- 13									3	14	2									19
283 - 31											58	23								81
- 33								7		127	343	691	235	18		*				1,421
- 34							5			*	12	17				5				39
- 42										9	232	212	162	25						640
- 51											29									29
- 52								2			75	121	6							204
- 62								1		118	157	128								404
- 63							47	195	325	309	243	419	79	10						1,627
- 64						35	28	257	506	475	255	105	27							1,688
- 70											3									3
- 80							*	10			125	60	6		*	3				204
- 90									66	144	190	129	21		3					553
284 - 40				*	3															3
- 50			5	1	55															61
- 60			6	146	54						22	67								295
311 - 52					16	47	36	62	38	4										203
- 60										162	330	260	42							794
312 - 20						52	4			58	17									131
- 40						36	24	30	97	37										224
314 - 20								16												16
Total			93	252	229	276	295	870	1495	1827	2665	3079	889	69	10	8				12,057

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.

TABLE A-12

1978 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE W/S PENINSULAR MANAGEMENT AREA

GEAR: Purse Seine

STAT. AREA	M O N T H S <sup>1</sup>																				Total										
	May					June					July					August						September					October				
	STATISTICAL WEEK																														
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40												
281 - 10													2								2										
- 20								2	16	7	10										35										
- 31									1	1	1										3										
- 32									2	2		2									6										
- 33							1														1										
- 34												7	4	2	2						15										
- 35							6					3	3								12										
282 - 10				6	8	7	9	15	11	15	27	31	4		2						135										
- 11			66	77	29	53	52	52	64	31	20	51	9								504										
- 12									7	4	25	15	4								55										
- 13									1	3	1										5										
283 - 31											5	4									9										
- 33								2		25	50	83	16	1		1					178										
- 34							3			1	5	3				1					13										
- 42										2	34	20	12	5							73										
- 51											5										5										
- 52								1				6	11	1							19										
- 62								2		21	25	18									64										
- 63							23	95	103	89	37	46	9	3							405										
- 64						19	19	80	155	107	34	9	5								428										
- 70												1									1										
- 80							1	1			18	14	3		1	4					42										
- 90									15	17	23	19	5		1						80										
284 - 40				1	1																2										
- 50			5	1	10																16										
- 60			7	41	13							4	6								71										
311 - 52					5	12	12	22	8	2											61										
- 60										21	43	43	7								114										
312 - 20						8	1				12	2									23										
- 40						8	20	11	19	8											66										
314 - 20								3													3										
Total			78	126	66	107	147	286	402	368	369	383	92	12	6	6					2,446										

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-13

1978 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Drift Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June		July		August					September			October					
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
284 - 40	4		6	15	20															45
- 50	*	7	44	60	86															197
- 60		5	157	616	145															923
311 - 60			*																	*
313 - 30			11	16	82	73	45	28	25	10	1	3	36	46	3	4				383
314 - 12			1			64	20					*	*							85
- 20								1												1
- 30					2		*		*											2
315 - 10				11	4	23	20	7	7	7	46	7								132
- 11			1	3	155	418	184	109	112	85	124	115	112	9						1,427
316 - 10						46	13	9			2									70
- 20						18	4													22
317 - 20	9	26	24	20								2	20	14	3					118
318 - 20														15	9					24
350 - 00		*	*			*	*													*
Total	13	38	244	730	501	623	289	167	144	102	134	166	175	84	15	4				3,429

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.



TABLE A-14

1978 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Drift Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June		July			August				September			October					
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
284 - 40	2		6	11	10															29
- 50	2	14	73	49	53															191
- 60		12	311	588	111															1,022
311 - 60			1																	1
313 - 30			15	14	55	40	46	28	34	23	8	12	45	50	2	5				377
314 - 12			1			28	12					1	1							43
- 20								2												2
- 30					5		1		2											8
315 - 10					3	6	28	28	17	20	10	23	12							147
- 11			1	4	56	261	142	124	115	137	110	64	77	12						1,103
316 - 10						14	11	6			2									33
- 20						5	2													7
317 - 20	19	30	29	29								12	32	27	10					188
318 - 20														32	27					59
350 - 00		1	1		3	1														6
Total	23	57	438	695	296	355	242	188	168	180	130	112	167	121	39	5				3,216

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-15

1978 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Set Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June		July			August				September			October					
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
281 - 20								4		3										7
- 31				*	7	3	2					1								13
- 34			9	4	12	9	12								2	2				50
- 35			9	6	9	6	7	2							3	1				43
282 - 10			2	2	1	1	2	4	2	3	15	8	*		*	*	*			40
- 11			1	2	1	7	10	11	4		2	3								41
- 12			*	*		3	2	1	4	*			*							10
- 23				*	*															*
283 - 62										3	7									10
- 63							*													*
- 70			*			*		1												1
- 80			5	*	3	2	2	6	4	6	2			*	2	2				34
- 90			1	1	1	5	1		2	1						*				12
284 - 60			3	4																7
311 - 60											3									3
313 - 30			30	40	95	106	27	21	27	4	3	4	4	25	1					387
314 - 12			3	7	*	6			1	1	3	1	2							24
- 30				1	13	21	9	3	3	1										51
317 - 20	2	3	8	7	*	*	1					1	7	4	1					34
318 - 20														2	5					7
Total	2	3	71	74	142	169	75	49	51	19	35	21	13	31	13	6	*			774

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.

TABLE A-16

1978 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&C 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Set Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June		July			August				September			October					
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
281 - 20								1		1										2
- 31				1	3	3	2					2								11
- 34			8	9	18	11	10							6	3					65
- 35			12	16	9	11	8	1						6	2					65
282 - 10			5	11	4	6	8	10	9	6	8	10	1		4	1	1			84
- 11			7	10	4	18	8	15	5		2	2								71
- 12			2	1		5	4	3	2	1			1							19
- 23				1	1															2
283 - 62										2	2									4
- 63							2													2
- 70			1			2		1												4
- 80			6	6	9	9	8	10	5	4	4			1	7	3				72
- 90			1	3	2	6	2		3	1						2				20
284 - 60			7	9																16
311 - 60												3								3
313 - 30			39	38	77	72	50	44	48	25	17	19	14	42		1				486
314 - 12			15	9	1	3			1	2	5	4	3							43
- 30				4	11	14	11	10	6	3										59
317 - 20	7	8	16	15	2	4	7					9	16	7	4					95
318 - 20														6	9					15
Total	7	8	119	133	141	164	120	94	80	44	39	49	35	56	36	12	1			1,138

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-17

1979 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Purse Seine

STAT. AREA	M O N T H S																				Total
	May		June		July		August				September				October						
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
271 - 10		155			350	895	800	599	333	293	220	143	131			3	2			3,924	
272 - 20							8		6	12										26	
- 30						2	15	88	5	64	29	3								206	
273 - 70							7		24	109	15									155	
- 72							8		3	137	100	129	127							504	
- 74						10			39	83	135			40						307	
- 80									2	77	94	51	23							247	
- 82										5										5	
- 84										6	23									29	
- 90								27	45	182	49	3								306	
- 94						42	12		12	92	1	5	5							169	
275 - 40							6		5	80	129	136	17	7	16					396	
- 50									30	12	9	22	85	5						163	
- 60									23	5	5		5							38	
281 - 10												78								78	
- 20									14	63	85									162	
- 31							8	30	26	27	7	5								103	
- 32									77	20	181	93				2				373	
- 33										64										64	
- 34							7		3	2	62	98								172	
- 35							11		1	32	68	25								137	
282 - 10				2	32			7	37	116	43	58								295	
- 11			148	310	163	18	326	784	1097	866	655	557								4,924	
- 12									19	109	149	108								385	
- 13									7											7	
283 - 20							23		8	3				2	15	14				65	
- 31									1	46	167	13								227	
- 33									5		153	279	33							470	
- 34														17	11	16				44	
- 41									2	25	11	12								50	
- 42									16	185	267	331								799	
- 51										17	33	25								75	
- 52							*		14	82	446	543	102	69						1,256	
- 61										2				3	8					13	
- 62									33	149	137	106								425	
- 63							1	47	204	609	731	163	30							1,785	
- 64						25	45	30	142	211	80	17	10							560	
- 65									*											*	
- 70								2		67	8	15								92	
- 80									35	369	391	210								1,005	
- 90									7	70	74	42								193	
284 - 10																				*	
- 20			126	901	238															1,265	
- 40			24	1	*															25	

TABLE A-17 (cont'd)

1979 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G

5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

(Cont'd)

GEAR: Purse Seine

STAT. AREA	M O N T H S <sup>1</sup>														Total						
	May		June		July			August				September		October							
	22	23	24	25	26	27	28	29	30	31	32	33	34	35		36	37	38	39	40	
284 - 60		3	8	7	10	40														68	
311 - 32					3	3														6	
- 52						8	9	28	42	81	10				19	6					203
- 60						3	8		2	7	5									25	
312 - 20						*	1	2	18	5										26	
- 40					3		22	37	6											68	
314 - 20								23												23	
315 - 11						*														*	
Total		158	306	1221	449	512	1386	1974	2542	4330	4759	3430	495	269	71	39	2				21,943

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.

TABLE A-18

1979 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S-PENINSULAR MANAGEMENT AREA

GEAR: Purse Seine

STAT. AREA	M O N T H S																			Total
	May		June			July				August				September			October			
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
271 - 10		85				93	368	405	450	248	172	177	162	103		7	2			2,272
- 20									5	1	4									10
- 30						1	9	26	2	13	6	1								58
273 - 70								2		3	13	5								23
- 72							1		1	19	8	21	15							65
- 74						1			3	13	15			3						35
- 80									2	14	14	13	2							45
- 82										1										1
- 84										1	5									6
- 90								4	13	33	9	2								61
273 - 94						26	3		6	18	1	4	1							59
275 - 40							1		1	16	19	30	3	4	7					81
- 50									5	7	3	3	23	1						42
- 60									9	3	2									16
281 - 10												4								4
- 20									2	8	14									24
- 31							5	6	2	5	1	1								20
- 32									9	4	12	8			1					34
- 33										6										6
- 34							4		1	1	3	4								13
- 35						1		1		3	7	2								14
282 - 10				1	10				2	9	19	11	12							64
- 11			81	129	65	18	117	147	147	107	64	85								960
- 12									9	21	29	23								82
- 13									1											1
283 - 20							11		2	1				1	4	3				22
- 31									1	10	18	4								33
- 33									1		36	44	10							91
- 34														6	3	5				14
- 41									1	2	1	1								5
- 42									5	28	35	49								117
- 51										3	4	4								11
- 52							1		3	17	59	78	20	17						195
- 61										1				2	2					5
- 62									8	20	18	13								59
- 63							5	32	70	88	100	23	5							323
- 64						11	12	21	76	40	14	3	3							180
- 65									1											1
- 70								1		6	2	1								10
- 80									4	39	40	23								106
- 90									4	9	8	6								27
284 - 10					1															1
- 20			24	83	48															155
- 40			3	1	1															5

TABLE A-18 (cont'd)

1979 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA  
(Cont'd)

GEAR: Purse Seine

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June			July				August					September			October		
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
284 - 60		1	5	7	4	10														27
311 - 32					1	1														2
- 52						2	1	12	12	21	2				3	2				55
- 60						3	7		3	5	3									21
312 - 20						1	2	2	13	1										19
- 40					1		11	16	3											31
314 - 20								6												6
315 - 11						2														2
Total	86	113	222	130	171	557	702	875	850	750	666	222	136	20	17	2				5,519

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-19

1979 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&amp;G

5-DIGIT STATISTICAL AREA IN THE M/S PENINSULAR MANAGEMENT AREA

GEAR: Drift Gill Net

STAT. AREA	M O N T H S <sup>1</sup>														Total					
	May		June		July			August				September				October				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35		36	37	38	39	40
282 - 10											2									2
283 - 11			*	1	6															7
- 42										11										11
- 63							*	1												1
- 64						2	2	2	10	*										16
- 80											4									4
- 90							*													*
284 - 20				37																37
- 40		9	27	52	6															94
- 50		9	10	4	1															24
- 60		22	119	272	93	3														509
311 - 32					11	8														19
- 60										1										1
313 - 30			12	27	61	108	71	24	20	14	*	64	64	75	14					554
314 - 12			*		2															2
315 - 10			9	15	7	26	18	12	7	11	*	6								111
- 11			*	17	609	628	528	209	285	397	327	259	128	2						3,389
- 12			1			6	2													9
- 20						4														4
316 - 10						121	127	53	19	50										370
- 20							36	83	15	4	3									141
317 - 20	14	23	16	9								4	14	28						108
318 - 20													1	6						7
350 - 00			1		*															1
Total	14	63	195	434	796	906	784	384	356	487	331	275	207	100	75	14				5,421

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.

EC1



TABLE A-20

1979 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Drift Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June		July		August				September				October					
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
282 - 10																				1
283 - 11			1	2	7															10
- 42									1	1										1
- 63								1	1	5	4	2								2
- 64																				13
- 80																				1
- 90							3													3
284 - 20				25																25
- 40		5	24	44	4															77
- 50		8	14	5	1															28
- 60		14	290	527	137	6														974
311 - 32					2	1														3
- 60											2									2
313 - 30			11	46	49	72	57	34	25	19	2		60	41	65	26				507
314 - 12			1		1															2
315 - 10			11	10	7	15	15	22	8	15	1	5								109
- 11			1	8	349	338	378	199	212	261	203	161	85	3						2,198
- 12			1			2	1													4
- 20						1														1
316 - 10						35	43	22	12	22										134
- 20							12	30	4	3	5									54
317 - 20	35	60	42	33									11	20	31					232
318 - 20														1	8					9
350 - 00			1		1															2
Total	35	87	397	700	558	474	508	313	265	323	213	179	166	83	65	26				4,392

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-21

1979 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

YEAR

Appendix A Tables

Salmon Catch (m.t.) and Effort (# Landings) Statistics by Gear, Statistical Week and ADF&G 5-Digit Statistical Area in the N/S Alaska Peninsula Management Area, 1975-1980:

Table A-1:	1975 Catch .....	A-1
Table A-2:	1975 Effort .....	A-2
Table A-3:	1976 Catch .....	A-3
Table A-4:	1976 Effort .....	A-5
Tables A-5 to A-10:	1977 Catch and Effort .....	A-7
Tables A-11 to A-16:	1978 Catch and Effort .....	A-13
Tables A-17 to A-22:	1979 Catch and Effort .....	A-19
Tables A-23 to A-26:	1980 Catch and Effort .....	A-27
Tables A-27 to A-29:	1980 Exvessel Value in Thousands of Dollars .....	A-31

TABLE A-22

1979 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Set Gill Net

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June		July			August				September			October					
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
281 - 20					5	7	4													16
- 31			3	4	4	1	8	4	4	2	1									31
- 32					10	2	3	5	5		1				1	2				29
- 34			12	15		37	21	23	6					11	8	8				141
- 35			4	6		18	9	12	11	5	2	2		5	4	3				81
282 - 10			3	12	32		6	10	7	6	2	4		7	2					91
- 11			10	25	23	1	17	16	20	15	5	8		1						141
- 12										5	2									7
- 13					1				1											2
283 - 33										2	2									4
- 42												4								4
- 61														1						1
- 63							2	7	2	1	2	2								16
- 64						1		1												2
- 70			1	1		3	3	1		2										11
- 80				2		5	2		2	6	14	4		4	6	4				49
- 90			10	5		21	9	20	10	7	2	1		1	2	2				90
284 - 60			5	12																17
311 - 32					1	1														2
- 60									1	4	2	4								11
313 - 30			31	90	115	118	87	54	39	28	7		55	51	59	24				758
314 - 12			14	13	32	23	32	23	22	27	22	15	4							227
315 - 11					7	1														8
317 - 20	21	44	31	34	19	25	34	37	11			9	10	11						286
318 - 20									1		2	9	7	9	4					32
Total	21	44	124	219	249	264	237	213	142	110	66	62	76	101	86	43				2,057

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-23

1980 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Purse Seine

STAT. AREA	M O N T H S																				Total										
	May					June					July					August						September					October				
	STATISTICAL WEEK																														
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40												
281 - 10											6									6											
- 20									8	16	29									53											
- 31										5	39									44											
- 32									22	21	31									74											
- 33									12	87	122									221											
- 34									48	57	158									263											
- 35										1	37									38											
282 - 10				35	107	79	39	28	32	223	167									710											
- 11				728	594	362	450	226	976	1,022	575									4,933											
- 12									4	25	26									55											
- 13										10										10											
283 - 12									10	7	34	69	15		7					142											
- 20										62	10	6	2							80											
- 31									4	296	788	1,066	155							2,309											
- 33											44	845	275							1,164											
- 34								10	60	18	18	59			9	16	7			197											
- 42									13	38	428	560	416							1,455											
- 51										10	4	185								199											
- 52									23	44	168	454	66							755											
- 61												84	21							105											
- 62											16	5								21											
- 63							13	19	18	120	252									422											
- 64						22	71	73	170	168	121									625											
- 65									9		40	31								80											
- 70										2	18									20											
- 80								18	28	37	77					3				163											
- 90									31	20	152									203											
284 - 20	24	14	3,578	2,752	37															6,405											
- 40			183	1	11															195											
- 50			2	44																46											
- 60			178	41	7		1					75								302											
311 - 32						1														1											
- 52						12				7	5									24											
- 60				1				13	38	34	265	224	113		21					709											
312 - 20								82	159	71	20									332											
- 40						7	179	224	215	67										692											
314 - 20								61	8											69											
315 - 11						98														98											
- 12						12														12											
Total	24	14	4,705	3,539	648	752	1898	2,497	3,616	3,658	1,063			40	16	7				23,232											

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

\* Less than .5 MT.

TABLE A-24

1980 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Purse Seine

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June			July			August					September			October			
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
281 - 10										2										2
- 20									1	1	3									5
- 31										2	6									8
- 32									3	4	1									8
- 33									2	11	11									24
- 34									5	6	12									23
- 35									1		3									4
282 - 10				6	10	19	17	21	15	45	26									159
- 11				116	97	148	166	146	218	170	84									1,145
- 12									5	14	8									27
- 13										1										1
283 - 12									2	2	3	8	2		1					18
- 20										16	2	1	1							20
- 31									1	34	76	88	18							217
- 33											6	74	35							115
- 34								7	17	6	1	7			3	5	2			48
- 42									5	10	42	48	48							153
- 51										3	1	19								23
- 52									15	7	21	48	10							101
- 61												9	3							12
- 62										3	2									5
- 63							1	4	9	25	46									85
- 64						6	25	30	46	39	14									160
- 65									2		7	4								13
- 70										1	2									3
- 80								2	11	7	12				2					34
- 90									10	3	21				1					35
284 - 20		2	1	211	216	5														435
- 40				14	1	2														17
- 50				2	4															6
- 60				30	16	12		1				5								64
311 - 32						1														1
- 52						2			2	1										5
- 60				1				1	9	8	31	25	16		2					93
312 - 20								12	24	10	2									48
- 40						1	27	36	32	19										115
314 - 20								7	2											9
315 - 11						11														11
- 12						2														2
Total		2	1	380	344	209	236	267	438	449	443	336	133		9	5	2			3,254

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-25  
1980 SALMON CATCH IN METRIC TONS BY GEAR, STATISTICAL WEEK AND ADF&G  
5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR 6	M O N T H S																Total		
	May	June			July			August			September			October					
STAT. AREA	STATISTICAL WEEK														Total				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35		36	37	38	39
Drift Gillnet																			
283 - 11				3															3
284 - 20						28													28
- 40				325	98														423
- 50				142	136	5													283
- 60		1		654	311	20		*		1									987
311 - 60												4							4
312 - 20										2									2
- 40							15	15	2										32
313 - 30			41	53	104	103	46	57	73	45	6	7	40	96	39				710
314 - 12			*	*	1		2	1	*						*				4
- 20							51	35											86
315 - 10	*	*		5	3	9	18	19	21	6	36	10							127
- 11	*	2		8	17	276	288	231	170	211	232	209	163	69	8	1			1,885
- 12						1	1	20	41	6									69
- 20						51	17		2	*									70
316 - 10						101	174	61	6	1	14								357
- 20						81	77	100	91	2	2	1							354
317 - 20	1	7	19	17	1	1	2	3					7	29	5				92
318 - 20													6	18	14	9			47
Total	1	10	19	1195	647	650	680	548	439	302	331	226	187	156	123	49			5,563
Set Gillnet																			
281 - 10							1												1
- 20						1	3		3	2	1								10
- 31				1	2	5	4	8	4	20	4								48
- 32				1	6	6	2	4	17	4	1			6					47
- 34				31	9		21	30	31	14	5			9	6				156
- 35				17	8		9	20	29	43	20			10	3				159
282 - 10				10	12	11	6	12	24	11	11			*	*				97
- 11				7	16	8	10	6	14	10	9				*				80
- 12				*		*			*	9									9
- 13									2										2
283 - 11							*												*
- 12							4	8	17	12	12	17	1						71
- 31										1									1
- 33												3							3
- 34								1	1						9	4			15
- 42										1	4								5
- 52								1	1			12	37						51
- 61												14	13			3			30
- 63							11	5											16
- 70							*	*											*
- 80				2	3		6	15	13	14	10			17	8	1			89
- 90				19	10		10	13	29	1	13			3	4	*			102
284 - 60				17	11	1			*	1									30
311 - 32				8	1	10													19
- 60				*					1	1	*	1	3						6
313 - 30				31	72	160	130	52	70	46	47	3	3	35	68	13			730
314 - 12				10	6	10	6	4	4	4	*	5	1						50
316 - 20																	2		2
317 - 20	1	3	7	15	19	14	15							4					78
318 - 20												1	4	5	27	13	1		55
Total	1	3	161	172	233	234	197	259	193	137	59	63	66	118	59	6	2		1,963

1 The correspondence between months and statistical weeks varies slightly from year to year.  
\* Less than .5 MT

**TABLE A-26**  
 1980 SALMON FISHING EFFORT IN NUMBER OF LANDINGS BY GEAR, STATISTICAL WEEK  
 AND ADF&G 5-DIGIT STATISTICAL AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR 6	M O N T H S																			Total
	May		June		July		August				September				October					
	STATISTICAL WEEK																			
STAT. AREA	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Drift Gillnet																				
283 - 11				3																3
284 - 20					6															6
- 40				120	55															175
- 50				71	56	2														129
- 60		2		480	268	32		1		1										734
311 - 60													3							3
312 - 20											2									2
- 40								8	6	2										16
313 - 30				37	69	75	64	45	38	51	44	12	24	58	61	34				612
314 - 12				2	1	2		1	9	1					1					17
- 20								28	18											46
315 - 10	1			11	5	5	22	32	50	9	37	11								183
- 11	5	11		8	17	25	282	266	236	150	260	238	131	90	9	3				1,957
- 12						1	1	22	33	8										65
- 20						35	12		2	1										50
316 - 10						47	98	47	4	2	10									208
- 20						42	31	61	72	2	2	2								212
317 - 20	9	31	59	57	13	6	5	7					15	39	7					248
318 - 20													9	22	22	12				65
Total	15	44	59	789	490	498	515	518	468	227	355	263	182	209	100	49				4,781
Set Gillnet																				
281 - 10							2													2
- 20					3	7		2	2	2										16
- 31				4	5	14	4	9	3	6	5									50
- 32				7	5	13	4	5	9	1	3				3					50
- 34				24	9		27	24	18	11	8				11	10				142
- 35				11	8		18	15	14	16	10				9	9				110
282 - 10				16	20	28	6	22	26	11	9				2	1				141
- 11				14	31	26	21	17	10	10	7					1				137
- 12				1		1			1	3										6
- 13									1											1
283 - 11						1														1
- 12							9	9	6	6	7	10	1							48
- 31										1										1
- 33												1								1
- 34								1	2							2	1			6
- 42										1	4									5
- 52								1	1			7	8							17
- 61												7	2			1				10
- 63							5	3												8
- 70							1	1												2
- 80				6	3		17	13	15	12	7				34	19	3			129
- 90				16	6		16	12	16	2	12				11	6	2			99
284 - 60				29	21	4			3	1										58
311 - 32				1	1	2														4
- 60					1				2	2	1	2	4							12
313 - 30				49	78	95	74	52	47	35	39	8	13	51	60	21				622
314 - 12				20	13	28	20	9	16	11	1	10	4							132
316 - 20																		1		1
317 - 20		5	28	48	47	55	53	55						4						295
318 - 20											7	21	17	28	17	20	2			112
Total	5	28	246	251	274	277	250	192	131	120	66	49	83	147	90	8	1			2,218

The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-27

1980 SALMON EXVESSEL VALUE IN THOUSANDS OF DOLLARS  
 BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL  
 AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Purse Seine

STAT. AREA	M O N T H S †																			Total	
	May		June			July			August					September			October				
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
281 - 10																				5	5
- 20									7	13	24										44
- 31										8	35										43
- 32									20	18	28										66
- 33									11	83	112										206
- 34									46	54	149										249
- 35									1		32										33
282 - 10				41	122	89	41	28	32	210	148										711
- 11				853	692	413	483	228	965	963	514										5,111
- 12									4	22	22										48
- 13										9											9
283 - 12									14	6	29	59	12		7						127
- 20										77	8	5	2								92
- 31									3	249	661	893	130								1,936
- 33											37	708	232								977
- 34								10	57	17	17	53			11	20	9				194
- 42									11	33	403	474	351								1,272
- 51										8	3	156									167
- 52									22	41	148	391	56								658
- 61												73	18								91
- 62											14	5									19
- 63								13	18	16	105	216									368
- 64						22	68	68	160	150	104										572
- 65										9		38	26								73
- 70										2	16										18
- 80									19	28	35	67			3						152
- 90										30	18	134			*						182
284 - 20		30	15	4235	3210	46															7,626
- 40				221	1	13															235
- 50				3	53																56
- 60				205	46	7		1				63									322
311 - 32											1										1
- 52											14		8	5							27
- 60																					633
312 - 20																					343
- 40																					681
314 - 20																					66
315 - 11																					129
- 12																					15
Total		30	15	5649	4124	756	781	750	1863	2329	3190	3098	902		41	20	9				23,557

\* Less than \$500.

† The correspondence between months and statistical weeks varies slightly from year to year.



TABLE A-28

1980 SALMON EXVESSEL VALUE IN THOUSANDS OF DOLLARS  
 BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL  
 AREA IN THE N/S PENINSULAR MANAGEMENT AREA

GEAR: Drift Gillnet

STAT. AREA	M O N T H S <sup>1</sup>																			Total
	May		June			July				August				September			October			
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
283 - 11				3																3
284 - 20					32															32
- 40				370	113															483
- 50				164	157	6														327
- 60		1		765	361	23		*		1										1,151
311 - 60													4							4
312 - 20											2									2
- 40								14	15	2										31
313 - 30				68	71	126	126	54	60	73	46	7	10	55	134	54				884
314 - 12				1	*	1		2	1	*					*					5
- 20								50	34											84
315 - 10	*			11	4	11	19	20	22	6	41	11								145
- 11	1	4		13	19	324	333	259	183	238	266	242	193	83	10	2				2,170
- 12						2	1	23	45	7										78
- 20						60	19		2	*										81
316 - 10						119	204	71	7	1	16									418
- 20						95	90	115	104	2	3	1								410
317 - 20	3	16	41	34	2	1	3	3						9	40	7				159
318 - 20														8	25	19	13			65
Total	4	21	41	1429	759	768	795	611	473	330	374	261	224	203	170	69				6,532

\* Less than \$500.

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

TABLE A-29

1980 SALMON EXVESSEL VALUE IN THOUSANDS OF DOLLARS  
 BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL  
 AREA IN THE M/S PENINSULAR MANAGEMENT AREA

GEAR: Set Gillnet

STAT. AREA	M O N T H S <sup>1</sup>																			Total	
	May		June			July				August				September				October			
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
281 - 10							1													1	
- 20					1	4		3	2	1										11	
- 31				1	3	6	5	9	4	19	4									51	
				2	7	7	3	5	18	3	1				7					53	
				37	11		24	34	34	15	5				12	8				180	
				20	9		11	22	32	46	20				13	4				177	
282				11	14	13	7	13	25	12	10				*	*				105	
- 11				8	19	9	11	7	15	10	8					*				87	
- 12				*		*			*	8										8	
- 13									2											2	
283 - 11						*														*	
- 12							5	9	19	14	11	15	1							74	
- 31										1										1	
- 33												3								3	
- 34								1	1							12	6			20	
- 42										1	4									5	
- 52								1	1			10	34							46	
- 61												13	12			4				29	
- 63							11	5												16	
- 70							*	*												*	
- 80				3	3		7	16	14	16	10				24	10	1			104	
- 90				23	11		11	14	32	1	13				3	5	*			113	
284 - 60				20	14	1			*	*										35	
311 - 32				10	1	12														23	
- 60					*				1	1	*	1	3							6	
313 - 30				51	97	198	157	61	73	47	49	3	5	49	94	19				903	
314 - 12				18	7	12	7	5	4	4	*	6	2							67	
315 - 10																		2		2	
				1	6	12	20	22	17	18					5					101	
											1	5	7	38	7	18	1			77	
Total				1	6	216	217	284	277	223	277	199	136	56	64	92	160	80	8	2	2,298

\* Less than \$500.

<sup>1</sup> The correspondence between months and statistical weeks varies slightly from year to year.

## Appendix B Tables

Salmon Catch in pounds by Gear, Statistical Week and ADF&G 5-digit Statistical Area in the Alaska Peninsula Management Area:

Table B-1	1975 Pink Salmon .....	B-2
Table B-2	1976 Pink Salmon .....	B-3
Table B-3	1977 Pink Salmon .....	B-5
Table B-4	1978 Pink Salmon .....	B-7
Table B-5	1979 Pink Salmon .....	B-9
Table B-6	1980 Pink Salmon .....	B-11
Table B-7	1975 Red Salmon .....	B-13
Table B-8	1976 Red Salmon .....	B-14
Table B-9	1977 Red Salmon .....	B-16
Table B-10	1978 Red Salmon .....	B-18
Table B-11	1979 Red Salmon .....	B-20
Table B-12	1980 Red Salmon .....	B-22



Exhibit B

ADF&G 5-digit Statistical Areas  
Along the Alaska Peninsula

B-1

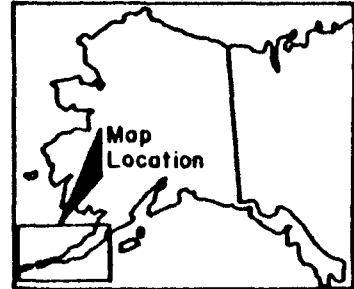
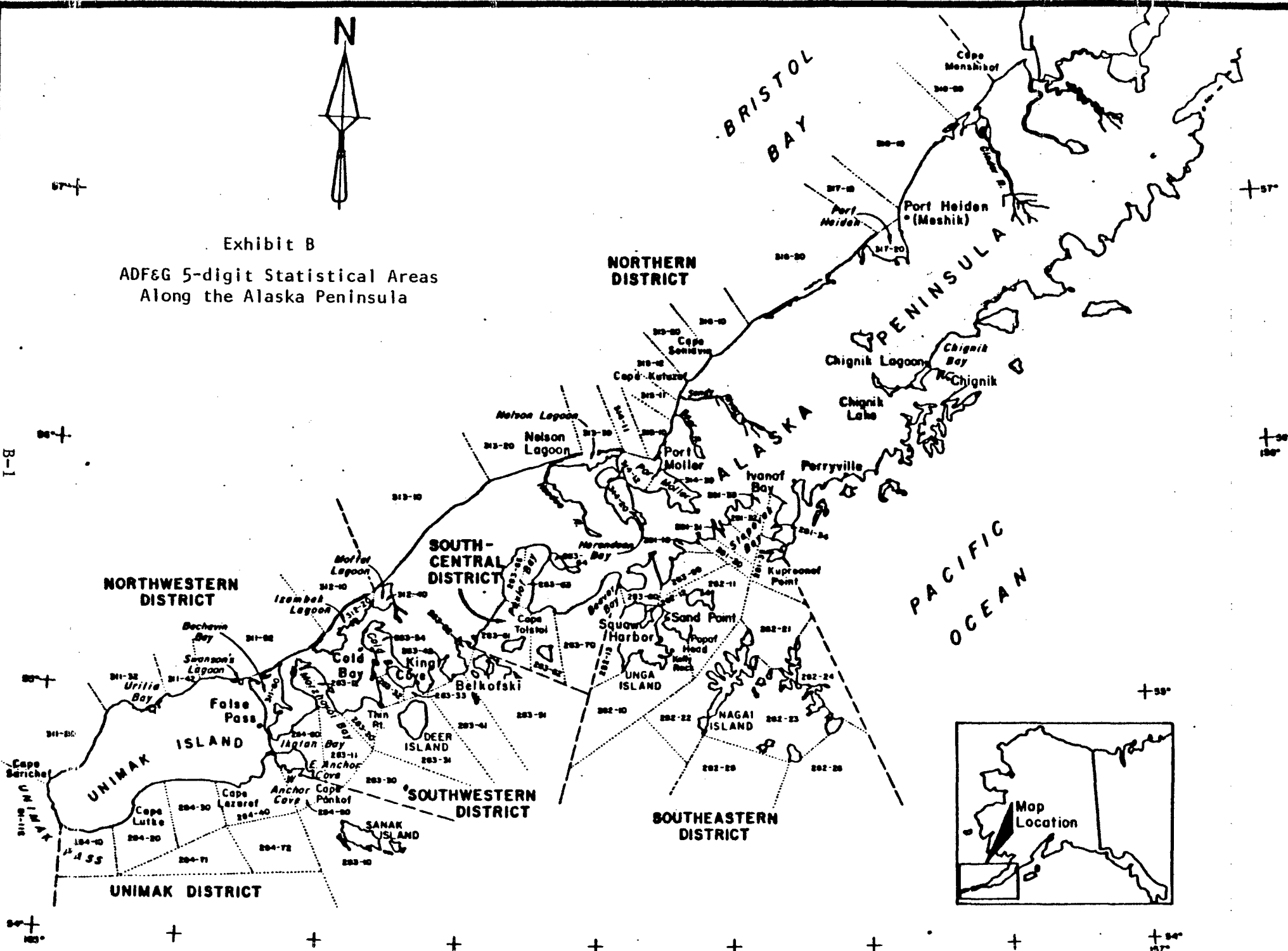


TABLE B-1  
1975 PINK SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY		JUNE				JULY				AUGUST				SEPTEMBER		TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
<b>PURSE SEINE</b>																	
81-34								7,225									
82-11			763	5,046													
83-12																	
-33												72,224					
-51												28,210					
-63																	
-64												880					
-80											105,460						
-90								539									
84-20				75				255									
-40			205	700		1,747											
-50			135	90													
-60				1,827		4,044											
111-52									25								
112-20																	
-40									6								
<b>Total</b>			1,103	7,738	5,791			8,019	31			106,340	100,434				
<b>DRIFT G LLNET</b>																	
82-10																	
83-11																	
84-20				100												100	
-40			20	13												33	
-50			8													8	
-60			75	132	96											303	
113-30									9							25	
114-12												3	4		9		
115-10							28		34	57	35	38	31	37	23	2	
-11									45	71	61	35	137	75	40		
-12										25		17	30	32			
-20							24	12									
116-10							8										
-20										12	12						
<b>Total</b>			103	245	96	60	12	79	174	108	90	198	147			1,390	
<b>SET G LLNET</b>																	
81-31																	
-34																	
-35																	
82-10																	
-11																	
83-90																	
84-60																	
113-30																	
114-12																	
115-20							12						5	5			
116-20																	
117-20																	
<b>Total</b>							12	3,931	17			5	5			3,982	

B-2

TABLE B-2  
1976 PINK SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY	JUNE					JULY					AUGUST					SEPTEMBER	TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		
<b>PURSE SEINE</b>																		
281-20									405		38,390	14,990						
-31								6,738	10,540		37,870							
-33								2,730										
-34						26			1,410			175,710						
-35						75			8,520			99,074						
282-10											123,626	126,116						
-11		531	1,650	7,217	7,584							104,360						
-12										313,648	297,344	306,392						
-13												24,620						
283-11			2,155															
-20																		
-42												45,104	37,515					
-51											256,126	418,810	158,640					
-52											9,780	359,051						
-63																		
-64								155,521	543,248	1,281,580	2,412,029	923,861	204,147					
-70								66,228	262,154	256,863	163,878	109,403						
-80								5,986				42,564						
-90						92	25	2,771	20,938		272,416	259,305						
284-20				3,075		404					179,592	55,831						
-40				10,480	6,135		1,110											
-50				550														
-60			700	2,822	4,822	3,455												
311-52																		
312-20									150									
-40																		
<b>Total</b>		531	4,505	24,144	19,037	4,691		240,124	847,215	1,852,091	3,791,051	3,065,191	400,302					
<b>DRIFT GILLNET</b>																		
283-11		40	549															
284-40				2,564	1,395													
-50				681	170													
-60			3,822	11,733	4,178	789												
311-60				140														
313-30				2						14	40	45	11	68	76	6		
314-12														44				
-20										15								
315-10										33		91	73	161	7			
-11							30	4	3	57	15	52	83	21	144			
-12										8	242	5	42					
316-10								20	6	88		109	122					
-20																		
317-20																		
<b>Total</b>		40	4,371	15,120	5,743	819	4	35	125	151	430	281	458	227	6			

B-3

TABLE B-2  
1976 PINK SALMON (continued)

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY		JUNE				JULY					AUGUST				SEPTEMBER		TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		
SET 6. LLNET																		
281-31																		
-32																		
-33									710								710	
-34					30	383		2,990	11,680								15,083	
-35					90	559											1,244	
82-10				87												595	87	
-11				86	20												106	
-13					18												18	
83-70					56	170		580									806	
-80					44	35		286	4,798			1,810					6,973	
-90					24	130											154	
84-40																		
-60				90	179	36											305	
13-30							5		34	13	72	34	39	53			250	
14-12								33	46	18	99	39	46				281	
-30																		
16-20																		
17-20																		
18-20																		
Total				263	461	1,313	5	4,599	16,558	31	171	1,883	85	53	595		26,017	

TABLE 8-3  
1977 PINK SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY	JUNE					JULY					AUGUST					SEPTEMBER	TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		
PURSE SEINE																		
281-00													54,082					
-20													57,645					
-31							5,350		3,150									
-34								5,310	7,345									
-35							2,595		3,200									
282-11			657	1,971	3,160													
283-11				550	800													
-12																		
-20																		
-42												15,270	46,001					
-51												276,043	770					
-52												418,831	359,612					
-61								250								250		
-62									15,047	423,334	439,799	261,284				1,139,464		
-63								3,130		23,560	890,063	269,365	197,970			1,384,088		
-64								1,437	30,195	369,915	535,432	269,197				1,206,176		
-70							2,743	860	86,244	42,120		29,380				171,347		
-80							3,899	6,795	10,048			7,455	27,380			55,577		
-90							895					334,025	122,700			457,620		
284-40				890	365											1,255		
-50																		
-60			45	1,561	1,882											3,488		
311-52																		
312-20																		
-40																		
Total			702	4,972	6,207		15,482	17,782	155,229	868,929	1,865,294	1,880,850	866,160			5,681,607		
DRIFT GILLNET																		
284-40				170	217											387		
-50				1,253	1,092											2,345		
-60			3	1,484	835											2,322		
311-52																		
313-10										54						54		
-30							5			12	24	20	4			161		
314-12											27					27		
-20																		
315-10							3		125	114	4	64	10			397		
-11							24	47	311	304	25	161	138			1,158		
-12										25	10					35		
-20									40							40		
316-10							7	104	75	90						276		
-20									275							275		
317-20																		
318-20																		
Total			3	2,907	2,144		39	151	826	599	90	245	152			7,477		

B-5



TABLE B-3

1977 PINK SALMON (continued)

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&amp;G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY	JUNE					JULY					AUGUST					SEPTEMBER	TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		
SET GILLNET																		
281-31									380									
-32																		
-33																		
-34																		
-35							2,580	1,222	7,168									
282-10							2,180	1,240	4,400									
-11																		
283-63																		
-70																		
-80																		
-90																		
284-60																		
311-52																		
313-30																		
314-12																		
-20																		
-30																		
316-20																		
317-20																		
318-20																		
Total																		

TABLE B-4  
1978 PINK SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY	JUNE					JULY					AUGUST					SEPTEMBER	TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37		
<b>PURSE SEINE</b>																		
281-10											61,170					61,170		
-20								1,820	151,145	54,000	167,420					374,385		
-31									8,225	16,240	20,492					44,957		
-32									17,015	11,900						40,167		
-34												11,252				11,252		
-35							3,492					175,162	142,499			317,661		
282-10							9,007	31,680	25,765	99,377	297,378	109,605	63,860			176,957		
-11		13,161	5,705	6,630	3,530	29,435	43,410	242,410	386,925	424,660	480,661	1,014,848	118,900			766,217		
-12			33,824	54,447					4,840	6,960	262,447	195,872	40,460			2,852,681		
-13									2,250	18,430	4,085					510,579		
283-31											127,880	50,012				24,765		
-33										252,621	713,171	1,429,544	504,556			177,892		
-34							592			300	13,972	1,820				2,899,892		
-42										19,890	450,011	465,205	278,756			16,684		
-51											64,290					1,213,862		
-52												164,470	62,655			64,290		
-62								3,573				282,020				230,698		
-63								2,670		260,097	345,159	866,363	157,183	12,441		889,946		
-64						8,250	59,895	362,530	654,689	626,969	485,035	225,393	57,620			3,225,105		
-70							41,775	436,530	983,983	958,189	522,660	7,461				3,234,400		
-80							30	8,520			225,187	114,800	4,698			7,461		
-90									96,100	241,248	343,465	280,294	46,080			353,235		
284-40					1,670											1,007,187		
-50			2,925		18,610											1,670		
-60			3,109	60,318	15,599											21,535		
311-52						50	74	3,718			39,070	139,146				257,242		
-60										307,215	672,899	534,047	87,960			3,842		
312-20										2,954						1,602,121		
-40										3,974						2,954		
<b>Total</b>			19,195	99,847	96,956	41,265	168,275	1,093,451	2,330,937	3,305,024	5,235,282	6,393,660	1,587,196	12,441		20,383,529		
<b>DRIFT GILLNET</b>																		
284-40	63				95											158		
-50	8	641	2,061	2,193	2,278											7,181		
-60		194	6,302	11,025	4,840											22,361		
311-60				8												8		
313-30				55		5	4		113	193	40	20	249	60		739		
314-12												35	75			110		
-30										42						42		
315-10							591	115	997	915	816	5,371	911			9,716		
-11				52		85	347	986	5,099	8,826	16,572	12,690	11,214	440		45,311		
316-10						62	45	16			285					408		
-20						60	38									98		
<b>Total</b>	71	835	8,371	13,273	7,265	212	1,025	1,117	62,51	9,934	17,713	18,116	12,449	500		97,132		

B-7

TABLE B-4

1978 PINK SALMON (continued)

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&amp;G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY		JUNE				JULY					AUGUST				SEPTEMBER		TOTAL
	Week	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
SET GILLNET																		
281-20								50	3,045		5,576							
-31												480						
-34						38	449	2,590										
-35						32	254	1,420		460								
282-10			33	49	42	160	197	1,935	1,093	3,713	19,832	11,810		3				
-11			26	61	37	880	1,615	5,219	6,585		1,200	2,700						
-12			8			695	385	415	255	220				263				
-23																		
283-62										6,381	14,536							
-63								50										
-70							18		245									
-80			7		20	28	200	1,080	2,320	3,980	2,872							
-90					3	60	69		770	340								
284-60			54	58														
311-60												6,520						
313-30				20				5	100	20	70	95		111				
314-12									24	8	99	63		550				
-30					4	15		39	46	65								
317-20																		
Total			128	188	176	2,559	6,576	9,398	14,238	14,727	44,185	21,668	927					

TABLE B-5  
1979 PINK SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY	JUNE					JULY					AUGUST					SEPTEMBER		TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37			
PURSE SEINE																			
281-10																	163,435		
-20									22,303	122,815	182,285						327,403		
-31							396	35,040	45,599	54,959	14,735						160,509		
-32									127,132	36,150	356,484	137,263					657,029		
-33										83,884							83,884		
-34									6,930	2,350	137,163	210,534					358,121		
-35							1,144			59,770	132,031	52,715					251,226		
282-10				440	11,005	5,825		885	65,802	215,031	92,207	105,293					497,504		
-11			63,392	138,861	68,295	6,361	129,056	724,202	1,530,142	1,574,069	1,170,751	954,339					6,359,468		
-12									32,905	232,907	314,215	236,021					816,048		
-13									8,200								8,200		
283-20															105		105		
-31									1,800	101,344	367,525	28,420					499,089		
-33									11,330		332,168	597,068	68,176				1,008,742		
-34																			
-41																92	110		
-42									4,353	54,381	23,770	25,630					108,134		
-51									33,938	400,495	578,631	640,137					1,653,201		
-52										36,420	73,158	53,652					163,230		
-62						60			28,000	174,754	871,163	985,168	112,747				2,171,928		
-63									72,430	327,109	300,057	229,780					929,376		
-64								525	82,147	408,613	1,250,386	1,453,244	326,162	60,770			3,581,847		
-65						2,480		8,303	40,145	255,657	410,435	159,353	29,060	19,290			924,721		
-70									200			2,110					2,110		
-80									4,800		148,588	17,898	31,212				202,498		
-90										56,366	667,475	742,142	371,158				1,837,141		
284-10									12,478	127,184	136,920	69,125					345,707		
-20				12,935	50,531	23,931											87,397		
-40				7,650	180	139											7,969		
-60		930	3,440	2,967	1,810	21,340											30,487		
111-32																			
-52									100		44						144		
-60								360	80		2,356	928					3,724		
112-20								20									20		
-40																			
314-20																			
315-11							3										3		
Total		930	87,417	192,979	105,180	36,449	139,604	894,945	2,724,178	6,082,906	7,456,828	5,258,062	260,983	128	105	18	23,240,712		

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TABLE B-5  
1979 PINK SALMON (continued)

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY	JUNE					JULY					AUGUST					SEPTEMBER		TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37			
<b>DRIFT GILL NET</b>																			
282-10												5,320					5,320		
283-11			90	82	180												352		
-42										22,820							22,820		
-63							100	1,750									1,850		
-64							583	1,410	15,140	820							17,983		
-80												9,432					9,432		
-90								20									20		
281-20				481													481		
-40		366	838	2,073	47												3,324		
-50		459	370	58	135												1,032		
-60		1,035	11,796	17,646	6,490	181											37,148		
311-32																			
-60										364							364		
311-30							5		10	15					12		42		
311-12																			
315-10							20	14	15	109			10				168		
-11					39	47	224	155	790	1,181	1,477		928	434			5,275		
-12							4										4		
-20																			
315-10							10	28	141	191	371						741		
-20								20	18	20	44	12					114		
317-20																			
<b>Total</b>		1,870	13,094	20,340	6,891	288	984	3,488	16,166	25,360	1,853	15,690	446				106,470		
<b>SET GILL NET</b>																			
281-20					20	87	648										755		
-31				15			228	240	2,760	6,300	825						10,368		
-32							55	348	1,794	5,870	920						8,987		
-34				25			3,183	2,752	9,675	3,850							20,931		
-35				8			1,655	1,755	5,421	5,970	12,320	9,595	23,673	1,382	64		61,581		
282-10			200	692	804			946	2,023	7,782	15,295	1,354	11,392				40,503		
-11			362	364	707	25	160	4,819	12,923	21,983	14,491	15,204		1,172	15		71,064		
-12										18,184	1,795			26			19,979		
-13									41								41		
281-33										3,908	3,540						7,448		
-42																	2,840		
-63								920	5,087	4,250	2,360	9,510	2,840				23,087		
-64									11				960				11		
-70								125									18,110		
-80				1,702				15	7		474	6,033	20,585	2,690			31,506		
-90			62	315		326	369	7,450	3,915	9,647	2,840	1,070					25,994		
281-60			170	418													588		
311-32																			
-60										1,300	1,056	6,576					8,932		
311-30										6							6		
311-12					8	10	8		64	74	135	108	15				422		
315-11																			
317-20								12									12		
311-20											50	9	53				112		
<b>Total</b>			794	3,539	1,539	5,481	8,153	36,520	47,899	115,395	66,696	64,522	68	2,595	76		353,277		

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TABLE B-6  
1980 PINK SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY		JUNE				JULY				AUGUST				SEPTEMBER		TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
PURSE SEINE																	
281-10										10,710						10,710	
-20									3,604	34,054	59,650					97,308	
-31										9,483	74,989					84,472	
-32									26,305	38,519	42,095					106,919	
-33									177	24,452	112,418					137,047	
-34									6,468	24,118	81,041					111,627	
-35									191		67,635					67,826	
282-10			19,988	70,179	44,219	17,372	17,160	36,591	313,789	289,623						808,921	
-11			397,156	338,772	197,732	205,352	149,377	1,111,712	1,547,794	1,027,946						4,975,841	
-12								705	40,550	51,730						92,985	
-13									8,470							8,470	
283-12									10	8,865	74,665	138,851	27,780			250,171	
-20										15,555	21,270	14,025	3,611			54,461	
-31									8,170	636,297	1,718,791	2,338,792	338,396			5,040,446	
-33											93,611	1,855,372	581,032			2,530,015	
-34								2,253	37,338	6,423	13,370	77,169				136,553	
-42									16,600	59,304	757,872	1,154,385	876,218			2,864,379	
-51										21,045	8,735	398,002				427,782	
-52									5,590	30,643	246,046	849,712	130,779			1,253,770	
-61												136,557	31,757			168,314	
-62										33,880	8,810					42,690	
-63							1,340	6,600	26,544	189,180	480,782					704,416	
-64						284	7,420	37,973	86,516	204,567	220,545					557,305	
-65									1,355		18,214	60,858				80,427	
-70										3,250	33,855					37,105	
-80								10,565	31,609	60,414	133,422			4		236,014	
-90									23,423	31,875	277,069				157	332,424	
284-20		6,116	5,004	1,098,701	1,283,412	8,838										2,402,071	
-40				72,670	1,520	8,389										82,579	
-50				1,950	19,705											21,655	
-60				83,731	28,272	2,040						165,713				280,606	
311-32																	
-52										621						621	
-60									520	4,686	10,221	456,403	348,290	149,515		969,635	
312-20																	
-40																	
315-11						258										258	
-12						42										42	
Total		6,116	5,004	1,674,196	1,741,860	261,802	231,484	225,298	1,430,814	3,383,974	6,347,442	7,528,726	2,139,088		161	24,975,965	

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TABLE B-6  
1980 PINK SALMON (continued)

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY		JUNE				JULY					AUGUST				SEPTEMBER		TOTAL		
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37				
<b>DRIFT GILLNET</b>																				
283-11					251		155													
284-20					236		216													
-40																				
-50																				
-60																				
311-60			6		4,370		8,527		428											
312-20																				
-40																				
313-30																				
314-12																				
-20																				
315-10																				
-11																				
-12																				
-20																				
316-10																				
-20																				
317-20																				
318-20																				
<b>Total</b>			6		4,857		8,898		428	15	4	80	858	3,150	5,396	3,599	1,237	4	4	
<b>SET GILLNET</b>																				
281-10																				
-20																				
-31																				
-32																				
-34																				
-35																				
282-10																				
-11																				
-12																				
-13																				
283-11																				
-12																				
-31																				
-33																				
-34																				
-42																				
-52																				
-61																				
-63																				
-70																				
-80																				
-90																				
284-60																				
311-32																				
-60																				
313-30																				
314-12																				
317-20																				
318-20																				
<b>Total</b>					110		1,124		364	1,989	8,458	34,078	86,514	79,477	66,031	84,406	15	373	18	362,957

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TABLE 8-7  
1975 RED SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT. STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY		JUNE				JULY				AUGUST				SEPTEMBER		TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
<b>PURSE SEINE</b>																	
281-34								8,425									
282-11			23,725	222,515													
283-12									1,170								
-33																	
-51																	
-63																	
-64																	
-80												239					
-90								385									
284-20				1,675				216									
-40			1,994	7,543	61,585												
-50			6,940	2,654													
-60				19,820	125,939												
311-52									8,700								
312-20									1,257			76	4,180				
-40									1,755								
<b>Total</b>			32,659	254,207	187,524			9,026	12,882		76	4,419					
<b>DRIFT GILLNET</b>																	
282-10				135													
283-11				1,590													
284-20				9,770													
-40			10,691	53,080	129,521												
-50			3,088	6,255													
-60			33,684	249,310	307,639												
313-30					8,054	36,087	16,087	11,340	20,444			1,127	686	255	97		
314-12				323	1,420	305	924										
315-10				555	1,828	85,529	17,490	23,123	20,939	13,304	17,139	29,855	42,543	24,135	3,846		
-11				315	9,675			37,295	31,994	16,899	21,590	116,044	84,341	26,969	2,112		
-12								1,429	18,493	1,326	7,347	19,030	5,226	555			
-20						140,083	61,485	21,556									
316-10						43,468			5,071	1,287							
-20									1,865								
<b>Total</b>			47,463	321,333	458,137	305,472	95,986	94,743	98,806	32,816	46,076	166,056	132,796	51,914	6,055		
<b>SET GILLNET</b>																	
281-31									2,650								
-34									5,240								
-35									3,757								
282-10			1,920	4,510													
-11			200	180													
283-90									853								
284-60					740												
313-30				5,443	37,820	78,690	15,903	17,700	28,065			1,927	982	412	111		
314-12				1,131	7,532	6,945	3,138										
315-20					130												
316-20					145	215											
317-20			6	488	2,690	973											
<b>Total</b>			2,126	11,897	49,127	86,608	19,041	30,200	28,065			1,927	982	412	111		

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TABLE B-8  
1976 RED SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	JUNE				JULY						AUGUST					SEPTEMBER		TOTAL
	Week 23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38		
<b>PURSE SEINE</b>																		
211-20											56						86	
-31							12,426	1,580									14,006	
-33																	9,100	
-34					9,100												3,235	
-35				620	2,145			460			10							
212-10																		
-11	1,346	10,135	129,420	274,925													415,826	
-12									8	14							22	
-13																		
213-11		2,005															2,005	
-20									7,623								7,623	
-42																		
-51										6							6	
-52											6						6	
-63							6,690	2,679	5,694	1,686	323	640					17,712	
-64							325	2,965	137	2,220							5,647	
-70							80										80	
-80				2,300	425		977	1,227									4,929	
-90				12,271						24							12,295	
214-20			3,650		25,425												29,075	
-40			24,010	96,710													120,720	
-50			645														645	
-60		978	8,549	49,119	36,060												94,706	
311-52						5,830											5,830	
312-20							19,595	22,297	29,634								71,526	
-40							30,062	540									30,602	
<b>Total</b>	<b>1,346</b>	<b>13,118</b>	<b>166,274</b>	<b>435,945</b>	<b>73,155</b>	<b>5,830</b>	<b>70,155</b>	<b>31,748</b>	<b>43,096</b>	<b>3,950</b>	<b>395</b>	<b>640</b>					<b>845,652</b>	
<b>DRIFT GILLNET</b>																		
213-11	312	4,196															4,508	
214-40		480	83,964	244,393													328,837	
-50		370	15,091	78,610													94,071	
-60		45,161	205,847	429,766	46,555												727,329	
311-60		290	3,880														4,170	
313-30		1,725	12,152	22,175	47,329	41,196	17,077	3,270	3,620	1,156	352	794	64	6			150,916	
314-12	5	3		1,525					715			2,279					4,527	
-20									25								25	
315-10					224,899	94,567	17,474	29,917	1,060	17,062	22,248	59,591	5,722				472,540	
-11					221,445	213,837	176,740	100,292	87,936	11,814	60,535	15,738	24,313				912,650	
-12					16,621	89,030	62,116	36,746	101,592	4,730	9,014						319,849	
316-10						420,275	241,144	187,624	195,423		71,635	17,982					1,134,083	
-20							65,180										65,180	
317-20			124	2,158													2,282	
<b>Total</b>	<b>317</b>	<b>52,225</b>	<b>321,058</b>	<b>778,627</b>	<b>556,849</b>	<b>858,905</b>	<b>517,615</b>	<b>383,244</b>	<b>325,500</b>	<b>131,624</b>	<b>159,500</b>	<b>105,398</b>	<b>30,099</b>	<b>6</b>			<b>4,220,967</b>	

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TABLE B-8  
1976 RED SALMON (continued)

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	JUNE			JULY							AUGUST					SEPTEMBER		TOTAL
	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38			
SEI GILLNET																		
281-31			5,130	5,135														
-32			3,970	820														
-33																		
-34			94,875	106,485			62,55	14,740										
-35			45,310	61,410														
282-10	200	609	6,911	370														
-11		410	6,310	880														
-13				5,500														
283-70				10,252	2,650			440										
-80				28,911	10,080			540	3,952									
-90				18,013	8,368													
284-40				1,140														
-60	238	190	1,400	2,399	144													
313-30		2,710	20,132	50,540	72,785	64,939	29,702	31,400	12,136	7,349	1,803	840						
314-12	7	696	1,262	13,870	10,774	5,672	8,074	4,486	536	1,082	1,966	1,755	67	19				
-30					3,196													
316-20						978												
317-20			236	4,105	10,385	6,759	7,778											
318-20												22						
Total	445	4,615	36,251	285,265	292,232	78,348	52,789	54,578	12,672	8,431	3,769	2,617	67	19	10,597	3,267		

TABLE 8-9  
1977 RED SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	JUNE			JULY						AUGUST					SEPTEMBER			TOTAL
	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39		
<b>PURS: SEINE</b>																		
281-00																		
-20																		
-31					15,235													
-34						3,810												
-35					3,915													
282-11	46,099	84,187	171,270															
283-11		6,120	3,940															
-12																		
-20																		
-42																		
-51																		
-52																		
-61																		
-62																		
-63																		
-64																		
-70																		
-80																		
-90																		
284-40																		
-50																		
-60																		
311-52																		
312-20																		
-40																		
<b>Tota</b>	<b>47,109</b>	<b>142,490</b>	<b>311,131</b>		<b>99,828</b>	<b>39,543</b>	<b>174,155</b>	<b>136,458</b>	<b>11,524</b>	<b>102</b>								
<b>DRIFT GILLNET</b>																		
284-40																		
-50																		
-60																		
311-52																		
313-10																		
-30																		
314-12																		
-20																		
315-10																		
-11																		
-12																		
-20																		
316-10																		
-20																		
317-20																		
318-20																		
<b>Tota</b>	<b>19,334</b>	<b>523,346</b>	<b>637,922</b>	<b>412,272</b>	<b>855,461</b>	<b>427,275</b>	<b>191,553</b>	<b>91,066</b>	<b>68,740</b>	<b>98,352</b>	<b>93,216</b>							

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TABLE B-9

1977 RED SALMON (continued)

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&amp;G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	JUNE			JULY							AUGUST					SEPTEMBER			TOTAL
	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39			
SET GILLNET																			
281-31					2,200		1,680											3,880	
-32			2,597															2,597	
-33	185	1,450																1,635	
-34		22,267	16,460		44,752	8,385	43,765					496	6,668	2,928				145,721	
-35		1,514	30,065		24,875	7,990	13,230						7,635	1,250				86,555	
282-10	1,913																	1,913	
-11	3,196	1,975	10,380										673					16,224	
283-63							975	565										1,540	
-70		3,454	3,300		17,615	1,510	1,065											26,944	
-80			5,935		9,606	2,665	20,125											49,710	
-90					2,173					2,033	1,345							6,353	
284-60			6,090															6,090	
311-52							312											312	
313-20	2,263	10,706	19,603	81,383	131,029	40,335	17,101	2,189	320	1,209	170		15	47				306,370	
314-12	6	1,598	10,463	10,214		3,132	7,509	958	1,028	2,540	172			48				37,668	
-20							24											24	
-30	38		204	932	20,563	3,900	762											26,395	
316-20						795												795	
317-20		130	3,539	9,255	3,265	1,464	1,798											19,451	
318-20											5							5	
Total	7,601	43,094	108,636	101,784	256,078	70,176	108,346	3,712	1,348	5,782	1,692							740,190	

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TABLE B-10

## 1978 RED SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&amp;G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY	JUNE					JULY					AUGUST					SEPTEMBER		TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38		
<b>PURSE SEINE</b>																			
281-10																			
-20									2,080										
-31									240	2,820									
-32																			
-34																			
-35															70				
282-10				10,375	9,350	4,620	13,555						200						
-11		112,442	123,789	114,866	81,500	54,544	7,245	6,019	1,560	3,115	180				109				
-12											6,780	3,081	687						
-13											1,425								
283-31																			
-33								16,190											
-34							4,724												
-42											2,628								
-51											40				15				
-52																			
-62																			
-63									25		711				10				
-64						39	265	222	665	9,895	12								
-70							10	954	701	250	34								
-80																			
-90							50	2,200								35			
284-40					3,230				2,160	4,712	1,638								
-50			5,080	680	86,247														
-60			5,746	223,434	89,196														
311-52					654	3,213	12,265	54,635	73,703	9,308									
-60																			
312-20						12,708	420												
-40						6,790	8,290	10,790	7,660	34,570									
<b>Total</b>			123,268	358,278	303,543	108,870	101,479	140,625	135,565	89,492	14,129	3,410	887				1,379,760		
<b>DRIFT GILLNET</b>																			
284-40	270				7,635														
-50	71	6,746	55,685	98,367	127,855														
-60		2,184	268,920	1,108,227	229,969														
311-60			719																
313-30			6,475	33,994	176,293	159,293	97,531	51,004	29,320	8,551	1,895	2,246	427						
314-12						138,408	43,534						370	295					
-30					4,401		360												
315-10					23,175	9,024	46,740	38,792	13,922	12,035	14,176	94,247	13,789						
-11				3,795	333,404	911,076	387,379	220,843	226,214	160,460	245,980	238,236	229,636						
316-10						97,249	28,166	15,658											
-20						37,035	7,343				3,920								
317-20			105	2,163															
<b>Total</b>	341	8,930	331,904	1,246,546	902,732	1,352,085	611,053	326,297	269,731	181,046	265,971	335,099	244,147				6,092,547		



TABLE B-11  
1979 RED SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	JUNE				JULY						AUGUST				SEPTEMBER		TOTAL
	Week 23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	
PURSE SEINE																	
281-10											260						260
-20										1,240							1,240
-31						14,904	14,345	7,268	1,970	235	197						38,919
-32								12,674	135		100						12,909
-33									50								50
-34						14,168					557						14,725
-35					18,480		990		340	1,596							21,406
282-10			1,210	37,605			1,050	6,484	7,434	153	3,364						57,300
-11	185,744	419,301	223,762		18,844	233,061	207,695	165,734	72,287	71,456	67,010						1,664,894
-12								3,855	486	207	170						4,718
-13																	
283-20						50,420		17,228	6,907								74,555
-31										6							6
-33										17	21						38
-34																	
-41									18								18
-42								100	1,788	74	135						2,097
-51									30								30
-52					12				38	20	16						86
-62									1,164	1,123	475						2,762
-63						20	2,005	877	2,163	1,220	311	60					6,656
-64					1,405	698	290	554	243	137	170						3,497
-65																	
-70							138		150	12							300
-80								12,050	64,991	44,335	22,068						143,444
-90									9,194	14,495	20						23,709
284-10			35														35
-20		246,120	1,885,005	460,796													2,591,921
-40		31,435	390	918													32,743
-60	1,035	9,885	9,880	19,445	59,388												99,633
311-32				6,987	6,155												13,142
-52					6,430	8,717	50,943	86,331	170,967	22,820							346,208
-60					32	8,150		163	1,155	59							9,559
312-20					1,000	1,421	4,620	33,210	10,290								50,541
-40				4,200		3,675	3,990	300									12,165
314-20							425										425
315-11																	
Total	1,035	473,184	2,315,821	753,713	111,746	335,234	286,498	346,828	351,800	159,205	94,874	60					5,229,991

B-20

TABLE B-11  
1979 RED SALMON (continued)

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	JUNE					JULY					AUGUST					SEPTEMBER			TOTAL
	Week 23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38			
<b>DRIFT GILLNET</b>																			
282-10																			
283-11		345	1,515	9,085													10,945		
-42																			
-63								130									130		
-64					5	37											42		
-80																			
-90					455												455		
284-20			66,500														66,500		
-40	9,712	30,455	79,335	9,635													129,137		
-50	7,890	10,654	6,814	1,595													26,953		
-60	21,354	184,151	491,503	169,055	5,590												871,653		
311-32				24,461	17,473												41,934		
-60										842							832		
313-30		8,075	46,705	124,459	234,987	152,486	51,423	41,648	13,335	220				1,248	4		674,590		
314-12		7	4,695														4,702		
315-10		1,469	31,740	14,397	54,789	38,634	25,064	15,039	21,336	145	13,745						216,358		
-11		36	35,925	1,328,494	1,378,883	1,148,476	446,909	605,464	855,407	711,363	560,108	267,010	4,195				7,342,270		
-12		175			12,289	3,513											15,977		
-20					8,605												8,605		
316-10					267,559	279,624	115,106	41,708	108,784								812,781		
-20						79,330	183,544	32,712	8,830	6,855							311,271		
317-20		273	1,898														2,171		
<b>Total</b>	<b>38,956</b>	<b>235,640</b>	<b>761,935</b>	<b>1,685,876</b>	<b>1,980,635</b>	<b>1,702,100</b>	<b>822,176</b>	<b>736,571</b>	<b>1,007,692</b>	<b>719,425</b>	<b>573,853</b>	<b>268,258</b>					<b>10,537,316</b>		
<b>SET GILLNET</b>																			
281-20				5,665	4,926	11,909											22,500		
-31		1,120	2,277	5,650	2,457	17,232	7,161	4,720	3,390	410							44,417		
-32				9,870	7,284	7,798	15,661	5,395		90							46,313		
-34		24,955	18,256		52,246	52,665	63,772	2,905					2,963	3,441	1,463		222,666		
-35		16,376	13,770		23,821	47,866	28,340	22,380	8,580	230			3,302	3,850	1,198		169,713		
282-10		1,879	11,248	32,468		3,053	5,872	4,660	3,489	124	2,010		556	120			65,479		
-11		4,004	15,881	21,262	790	24,241	10,422	14,681	5,323	1,080	1,975		114				99,773		
-12									709	125							834		
-13				364				83									447		
283-33									18	60							78		
-42											10						10		
-63						936	1,485	170	130								2,721		
-64					100		15										115		
-70		272	225		1,250	9,233	1,470		1,030								13,480		
-80			1,206		2,801	1,690		1,326	6,902	8,161	3,620		1,516	1,960	1,045		30,227		
-90		9,864	4,545		11,246	12,231	52,906	11,947	7,458	1,700	470		159	918	793		114,237		
184-60		1,976	5,224														7,200		
111-32				6,987	6,155												13,142		
-60									739	51	328						1,118		
113-30		15,496	141,218	269,782	318,416	237,729	93,169	46,816	22,735	3,830				1,034			1,150,225		
114-12		1,652	8,667	43,526	29,187	29,201	13,948	14,108	14,131	12,120	11,355	4,835					182,730		
115-11				7,571	1,230												8,801		
117-20	32	192	6,358	13,314	11,852	87,381	83,931	12,684									215,744		
118-20								192		446	114	40					792		
<b>Total</b>	<b>32</b>	<b>77,786</b>	<b>228,875</b>	<b>416,459</b>	<b>473,761</b>	<b>543,165</b>	<b>378,152</b>	<b>142,067</b>	<b>74,634</b>	<b>28,427</b>	<b>19,882</b>	<b>5,909</b>	<b>8,610</b>	<b>10,289</b>	<b>4,714</b>		<b>2,412,762</b>		

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TABLE B-12  
1980 RED SALMON

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY		JUNE				JULY				AUGUST				SEPTEMBER		TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
PURSE SEINE																	
281-10																	
-20																	
-31										812	4,412						
-32									33	1,911							
-33											920						
-34									73	13	1,710						
-35																	
282-10				52,485	144,649	96,644	26,980	8,375	4,732	11,301	5,637						
-11				1,068,894	848,895	461,218	343,031	63,795	136,919	69,332	37,070						
-12																	
-13																	
283-12										22,897							
-20										112,033							
-31										14	2,174	368					
-33												504					
-34												137					
-42								1,272	5,996	80		3,262					
-51												220			500		
-52																	
-61										160		406		1,153	30		
-62																	
-63											860						
-64							1,100	360	161	275	496						
-65						4,600	1,968	1,119	827	188	6						
-70									110		315		20				
-80										925	4,365						
-90								17,690	17,437	10,530	4,535						
284-20									8,105	4,772	16,947						
-40																	
-50																	
-60																	
311-32																	
-52																	
-60																	
312-20																	
-40																	
315-11																	
-12																	
Total	43,455	15,053	7,378,911	4,955,985	901,008	386,659	152,774	271,402	274,930	83,128	8,386	1,838					14,473,529

B-22

TABLE B-12

## 1980 RED SALMON (continued)

CATCH IN POUNDS BY GEAR, STATISTICAL WEEK AND ADF&amp;G 5-DIGIT STATISTICAL AREA IN THE ALASKA PENINSULA MANAGEMENT AREA

Statistical Area	MAY		JUNE					JULY					AUGUST					SEPTEMBER			TOTAL
	Week	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38			
<b>DRIFT GILLNET</b>																					
283-11				5,546															5,546		
284-20					46,515														46,515		
-40				538,973	175,076														714,049		
-50				256,803	249,222		8,555												514,580		
-60		1,404		1,280,995	591,038	38,949		247		1,540									1,914,173		
311-60																			20		
312-20												78							78		
-40								269	310	220									799		
313-30				47,732	93,978	222,637	221,009	85,534	47,023	21,197	22,082	7,510	4,438	937	196				774,273		
314-12				320	330	1,290		255	735						85				3,015		
-20								1,037											1,037		
315-10				1,363	3,920	19,450	18,550	16,377	12,810	9,015	62,087	19,305							162,877		
-11	6	31		7,821	20,293	519,361	521,498	341,155	180,855	331,188	410,144	400,410	316,320	129,130	14,278	2,305			3,194,795		
-12						3,080	2,040	34,530	54,055	7,806									101,511		
-20						106,785	32,160		2,010	220									141,175		
316-10						205,704	349,858	119,173	10,508	1,930	23,690								710,863		
-20						163,110	154,197	180,472	156,293	2,634	3,970	2,260							622,936		
317-20		40	689	4,474	1,486	2,287	4,727	5,266											18,969		
<b>Total</b>	6	1,475	689	2,144,027	1,181,858	1,291,208	1,304,039	784,315	464,599	375,750	522,051	429,485	320,778	130,067	14,559	2,305			8,967,211		
<b>SET GILLNET</b>																					
281-10							1,520												1,520		
-20					2,691	6,378		2,470	1,777	515									13,831		
-31				1,477	4,915	11,219	8,474	15,021	5,531	9,381	2,267								58,285		
-32				2,820	12,408	13,548	5,091	7,165	13,462	325	191								55,105		
-34				66,917	20,584		39,093	42,471	36,275	12,756	4,299								236,504		
-35				36,460	16,993		17,817	25,720	35,087	49,978	12,000				7,454	6,655			204,432		
282-10				21,093	23,625	19,138	9,280	13,260	19,301	6,270	2,632				7,516	2,861			114,661		
-11				14,914	30,584	15,040	15,222	9,781	18,148	6,215	2,572				19	43			112,639		
-12				143		121			399	1,000						62			1,663		
-13									1,615										1,615		
283-11						880													880		
-12							6,070	9,505	20,114	11,975	4,108	1,028	216						53,016		
-31										91									91		
-33																			896		
-34								205	690										14		
-42											14								14		
-52																			357		
-61									1,320			511							1,831		
-63												357							357		
-70							2,890	1,110											4,000		
-80							140	50											190		
-90				4,698	5,475		8,645	15,741	16,681	15,100	4,085				4,725	2,267			77,417		
284-60				42,183	20,863		16,919	14,701	37,091	660	7,332				3,175	5,875			149,118		
311-32				36,094	24,858	2,657			221	13									63,843		
-60				18,649	1,800	22,503													42,952		
313-30				37,248	130,790	335,860	276,740	97,837	50,923	28,486	28,488	3,692	1,588	893	31				1,098		
314-12				1,026	3,990	14,250	10,285	4,310	2,815	2,225	500	8,022	2,445						992,576		
317-20			295	8,854	28,228	37,555	25,870	29,383											49,868		
318-20																			130,185		
<b>Total</b>			295	292,576	328,185	479,149	444,056	288,731	261,978	145,280	68,728	13,610	4,249						2,368,827		

Appendix C Tables

Salmon Catch in Pounds by Statistical Week in Selected Districts  
of the Bristol Bay Management Area:

Table C-1	1975 Red Salmon .....	C-1
Table C-2	1976 Red Salmon .....	C-2
Table C-3	1977 Red Salmon .....	C-3
Table C-4	1978 Red Salmon .....	C-4
Table C-5	1979 Red Salmon .....	C-5
Table C-6	1980 Red Salmon .....	C-6

Yearly Proportion of Red Salmon Catch and Total Salmon Catch  
by Selected Districts in the Bristol Bay Management Area

Table C-7	.....	C-7
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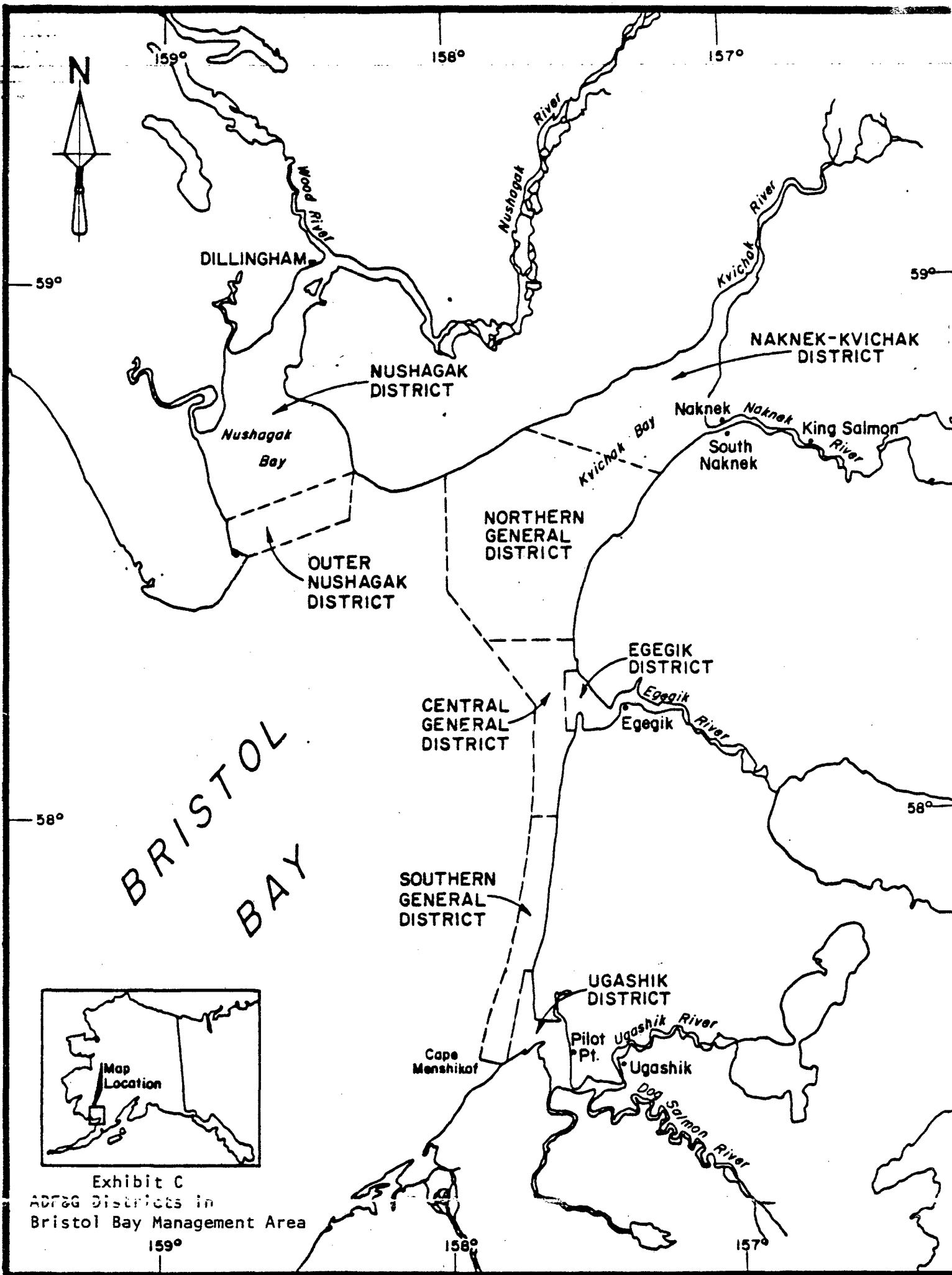


Exhibit C  
ADFG Districts in  
Bristol Bay Management Area

TABLE C-1

1975 RED SALMON CATCH IN POUNDS BY STATISTICAL WEEK IN SELECTED DISTRICTS OF THE BRISTOL BAY MANAGEMENT AREA

Districts	MAY	JUNE					JULY					AUGUST				TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35		
NAKNEK-KVICHAK						1,388,200	11,738,700	2,383,800	242,000	39,600	*	*			15,792,500	
EGEGIK			*	14,800	68,100	883,200	4,099,500	284,200	9,300	2,500	*				5,359,900	
UGASHIK							2,100	46,000	32,000	4,800	1,100	*	*	*	83,000	

\* = Less than one thousand pounds caught

C-1

TABLE C-2

1976 RED SALMON CATCH IN POUNDS BY STATISTICAL WEEK IN SELECTED DISTRICTS OF THE BRISTOL BAY MANAGEMENT AREA

Districts	MAY		JUNE				JULY					AUGUST			TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	
NAKNEK-KVICHAK					2,800	3,430,900	5,717,900	5,444,700	313,200	31,800	1,900	*			14,948,200
EGEGIK					11,000	222,500	3,873,500	3,020,600	472,600	94,400	1,900	*	*		7,696,500
UGASHIK				*	18,600	137,200	532,700	420,500	39,500	2,700	*	*			1,151,200

\* = Less than one thousand pounds caught

TABLE C-3

1977 RED SALMON CATCH IN POUNDS BY STATISTICAL WEEK IN SELECTED DISTRICTS OF THE BRISTOL BAY MANAGEMENT AREA

Districts	MAY		JUNE				JULY					AUGUST			TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35	
NAKNEK-KVICHAK				3,900	120,200	6,110,200	5,844,200	1,674,200	522,300	19,400	8,500	*	*	*	14,302,900
EGEGIK			1,300	66,200	748,600	3,304,100	5,209,300	1,530,800	351,700	5,600					11,217,600
UGASHIK			*	*	179,000	--	--	--	421,900	12,300	12,900	*	1,800	*	627,800

\* - Less than one thousand pounds caught

C-3

TABLE C-4

## 1978 RED SALMON CATCH IN POUNDS BY STATISTICAL WEEK IN SELECTED DISTRICTS OF THE BRISTOL BAY MANAGEMENT AREA

Districts	MAY	JUNE					JULY					AUGUST				TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35		
MAKNEK-KVICHAK			1,100	348,000	6,949,700	10,687,000	7,386,900	1,740,200	236,600	75,800	3,100	*			27,448,400	
EGEGIK		2,300	31,000	870,400	1,346,200	2,063,300	2,788,400	414,000	46,600	14,000	*				7,576,200	
UGASHIK			14,300	--	--	--	37,900	9,100	7,100	*	*				68,400	

\* = Less than one thousand pounds caught



TABLE C-5

1979 RED SALMON CATCH IN POUNDS BY STATISTICAL WEEK IN SELECTED DISTRICTS OF THE BRISTOL BAY MANAGEMENT AREA

Districts	MAY		JUNE					JULY					AUGUST			TOTAL
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34	35		
NAKNEK-KVICHAK			7,600	4,382,400	22,830,300	36,398,400	22,155,500	3,579,300	214,900	34,400	1,600	*	*	*	89,604,400	
EGEGIK	*	*	35,700	1,379,100	3,714,600	5,421,500	2,237,600	710,300	23,500	2,500					13,523,800	
UGASHIK			1,600	33,200	160,200	227,800	467,800	1,329,000	116,300	19,400	1,300	*	*		2,356,600	

C-5

\* - Less than one thousand pounds caught

TABLE C-6

## 1980 RED SALMON CATCH IN POUNDS BY STATISTICAL WEEK IN SELECTED DISTRICTS OF THE BRISTOL BAY MANAGEMENT AREA

Districts	MAY		JUNE			JULY					AUGUST			TOTAL	
	Week 22	23	24	25	26	27	28	29	30	31	32	33	34		35
NAKNEK-KVICHAK			1,300	23,000	1,440,400	25,680,300	41,852,000	5,278,900	818,700	78,200	15,300	2,500	*	*	75,190,600
EGEGIK			3,700	40,500	661,300	4,871,200	6,026,500	1,708,500	156,700	4,500	*	*	*	*	13,472,900
UGASHIK		*	*	*	25,100	346,900	1,729,900	2,377,800	204,900	*	*	*	*	*	4,684,600

\* = Less than one thousand pounds caught

TABLE C-7

YEARLY PROPORTION OF RED SALMON CATCH  
AND TOTAL SALMON CATCH BY SELECTED DISTRICTS IN THE  
BRISTOL BAY MANAGEMENT AREA

District		1975	1976	1977	1978	1979	1980
Naknek- Kvichak	<sup>1</sup> a	59.5	43.8	43.8	47.0	69.2	56.7
	<sup>1</sup> b	55.0	36.7	35.0	35.6	63.8	50.2
Egegik	a	20.2	22.6	34.3	13.0	10.4	10.2
	b	18.3	16.5	24.5	9.2	9.8	9.2
Ugashik	a	0.3	3.4	1.9	0.1	1.8	3.5
	b	0.5	2.5	1.5	0.3	2.0	3.3

<sup>1</sup>Legend: Numbers in the "a" row are the percent of volume of red salmon caught in the district compared to all red salmon caught in the Bristol Bay Management Area.

Numbers in the "b" row are the percent of volume of all salmon caught in the district compared to all salmon caught in the Bristol Bay Management Area.

All percentages rounded to nearest tenth of one percent.

## References

### Alaska Department of Fish and Game

- 1971 Annual Management Report, Alaska Peninsula - Aleutian Islands Management Area, 1970. Kodiak: Alaska Department of Fish and Game.
- 1976a Annual Management Report, Alaska Peninsula - Aleutian Islands Management Area, 1975. Kodiak: Alaska Department of Fish and Game.
- 1976b Annual Management Report, Bristol Bay Area, 1976. Anchorage: Commercial Fisheries Division.
- 1977 Annual Management Report, Alaska Peninsula - Aleutian Islands Management Area, 1976. Kodiak: Commercial Fisheries Division.
- 1978 Annual Management Report, Alaska Peninsula - Aleutian Islands Management Area, 1977. Kodiak: Commercial Fisheries Division.
- 1979a Annual Management Report, Alaska Peninsula - Aleutian Islands Management Area, 1978. Kodiak: Commercial Fisheries Division.
- 1979b Annual Management Report, Bristol Bay Management Area, 1976. Anchorage: Commercial Fisheries Division.
- 1980 Annual Management Report, Alaska Peninsula - Aleutian Islands Management Area, 1979. Kodiak: Commercial Fisheries Division.
- 1981a Annual Management Report, Alaska Peninsula - Aleutian Islands Management Area, 1980. Kodiak: Commercial Fisheries Division.
- 1981b Annual Management Report, Bristol Bay Management Area, 1977. Anchorage: Commercial Fisheries Division.
- 1981c Annual Management Report, Bristol Bay Management Area, 1978. Anchorage: Commercial Fisheries Division.
- 1981d Annual Management Report, Bristol Bay Management Area, 1980. Anchorage: Commercial Fisheries Division.
- 1982 Annual Management Report, Bristol Bay Management Area, 1979. Anchorage: Commercial Fisheries Division.

### Alonso, William and Edgar Rust

- 1976 The Evolving Pattern of Village Alaska. Prepared for the Federal-State Land Use Planning Commission for Alaska. Anchorage, Alaska: The Federal-State Land Use Planning Commission.

### Arctic Environmental Information and Data Center

- 1978a False Pass. Juneau: Alaska Department of Community and Regional Affairs.
- 1978b King Cove. Juneau: Alaska Department of Community and Regional Affairs.
- 1978c Nelson Lagoon. Juneau: Alaska Department of Community and Regional Affairs.

### Baker, June and Ben Muse

- 1979 Summary of Cost and Net Return Information for the Bristol Bay Drift Gillnet Fishery. Juneau: Commercial Fisheries Entry Commission.

### Black, Lydia

- 1980 The Early History. In The Aleutians. Lael Morgan, Ed. Alaska Geographic 7(3):82-105.

### Bower, Ward

- 1922 Alaska Fishery and Fur-Seal Industries in 1921. Bureau of Fisheries Document No. 933. Washington: United States Government Printing Office.

City of Sand Point

- 1978 Annual Statement of Revenues and Expenditures. FY 1978.
- 1979 Annual Statement of Revenues and Expenditures. FY 1979.
- 1980a Census 1980.
- 1980b Budget Statement, Year to Date, June 1980.
- 1981a Draft Community Comprehensive Plan.
- 1981b Capital Improvement Program Five Year Budget, 1981-1986.

Fisher, Barry

- 1980 The Joint Venture Fishery for Yellowfin Sole: A Case Study in Fishery Development. Anchorage: Alaska Fisheries Development Foundation and North Pacific Fishery Management Council.

Fitzgerald, Roger

- 1981 Salt Cod and Sailing Ships. Ocean Leader. Summer 1981:24-31.

Jones, Dorothy M.

- 1976 Aleuts in Transition. Seattle: University of Washington Press.

Jones, Dorothy and John Wood

- 1973 Patterns of Village Growth and Decline in the Aleutians. ISEGR Occasional Papers, No. 11. Fairbanks: University of Alaska.

King Cove, City of

- 1981 City of King Cove Community Comprehensive Plan.

Lane Knorr and Plunkett

- 1981 Revised Study for New Elementary-Secondary Educational Complex. Anchorage: Lane Knorr and Plunkett.

Langdon, Steve

- 1980 Transfer Patterns in Alaska Limited Entry Fisheries. Final Report to the Limited Entry Study Group of the Alaska State Legislature. Juneau: Legislative Affairs Agency.

Lantis, Margaret

- 1970 The Aleut Social System, 1750 to 1810, from Early Historical Sources. In Ethnohistory in Southwestern Alaska and the Southern Yukon. Margaret Lantis, Ed. Lexington: University of Kentucky Press.

Larson, Doug

- 1980 1979 Fisherman's Income Survey: Herring and Salmon Fisheries. Alaska Sea Grant Program Report 80-5. Fairbanks: University of Alaska.

North Pacific Fishery Management Council

- 1978 Fishery Management Plan for Tanner Crab Off Alaska. Anchorage: North Pacific Fishery Management Council.

Oswalt, Wendall H.

- 1967 Alaska Eskimos. Scranton, Pennsylvania: Chandler Publishing Company.

Pilot Point School Journalism Class

- 1979 The 1979 Pilot Point Journal. Anchorage: The Alaska Spectrum.

Port Heiden Village

- 1977 Annual Statement of Expenditures and Revenues. FY 1977.
- 1978 Budget Worksheet. Actual Expenditures and Revenues. FY 1978.
- 1979 Budget Worksheet. FY 1979.
- 1980 Annual Statement of Expenditures and Revenues. FY 1980.

R & M Consultants, Inc.

- 1981 A Preliminary Master Plan for the Sand Point Harbor Facility.  
Sand Point: R & M Consultants, Inc.

Rogers, George and Jack Kreinheder

- 1980 Socioeconomic Data Bases for Fishing Areas and Census Divisions.  
Final Report to the Limited Entry Study Group of the Alaska State  
Legislature. Juneau: Legislative Affairs Agency.

Rollins, Alden

- 1978 Census Alaska: Numbers of Inhabitants 1792-1970. Anchorage:  
University of Alaska.

Vanstone, James C.

- 1967 Eskimos of the Nushagak River: An Ethnographic History. Seattle:       
University of Washington Press.