APPENDIX 3

SOCIAL IMPACT ASSESSMENT
OF THE
ENVIRONMENTAL IMPACT STATEMENT
FOR
BERING SEA AND ALEUTIAN ISLANDS CRAB FISHERIES
OVERVIEW AND COMMUNITY PROFILES

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ACRONYMS

ADF&G	Alaska Department of Fish and Game
AEB	Aleutians East Borough
AEC	Aleut Enterprise Corporation
AFA	American Fisheries Act
ANCSA	Alaska Native Claims Settlement Act
APICDA	Aleutian Pribilof Islands Development Association
ARC	Adak Reuse Corporation
BBEDC	Bristol Bay Economic Development Corporation
BINMIC	Ballard Interbay Northern Manufacturing Industrial Center
BSAI	Bering Sea/Aleutian Islands
CBSFA	Central Bering Sea Fisherman's Association
CDQ	Community Development Quota
CFEC	Commercial Fisheries Entry Commission
CMSA	Consolidated Metropolitan Statistical Area
CVRF	Coastal Villages Region Fund
DCED	Department of Community and Economic Development
DOD	Department of Defense
EAI	Eastern Aleutian Islands
EEZ	Exclusive Economic Zone
EIS	Environmental Impact Statement
FAO	Food and Agriculture Organization of the United Nations
FBT	Fishery Business Tax
FMP	Fishery Management Plan
GHL	guideline harvest level
IFQ	Individual Fishing Quota
KIB	Kodiak Island Borough
LRA	Local Reuse Authority
mph	miles per hour
MSA	Magnuson-Stevens Act
NAF	Naval Air Facility
NAVFAC	Naval Facility
NMFS	National Marine Fisheries Service
NPFMC	North Pacific Fishery Management Council
NSEDC	Norton Sound Economic Development Corporation
NSGA	Naval Security Group Activity
NWR	National Wildlife Refuge
PIP	Pribilof Island Processors
PMA	Proposed Management Alternatives
QS	quota share
REIS	Regional Economic Information System
SEIS	Supplemental Environmental Impact Statement
SIA	Social Impact Assessment
TAC	total allowable catch
USDOI	U.S. Department of the Interior
USFWS	U.S. Fish and Wildlife Service
VFW	Veterans of Foreign Wars
WAI	Western Aleutian Islands
YDFDA	Yukon Delta Fisheries Development Association

OVERVIEW OF CRAB COMMUNITY SOCIOECONOMIC PROFILES

In addition to discussions of background, methodology, and experience with rationalization programs, this document contains profiles of selected communities that are engaged in, and substantially dependent upon, the Bering Sea/Aleutian Islands (BSAI) crab fishery. The nature of engagement with, and the level of dependence upon, the crab fishery varies from community to community.

This section is guided, in part, by National Standard 8 under the Magnuson-Stevens Act (MSA). National Standard 8 is part of a set of standards that apply to all Fishery Management Plans (FMPs) and regulations promulgated to implement such plans. Specifically, National Standard 8 states that:

> Conservation and management measures shall, consistent with the conservation requirements of this [Magnuson-Stevens] Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities and (B) to the extent practicable, minimize adverse economic impacts on such communities (Sec. 301(a)(8)).

The MSA defines a "fishing community" as "...a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew, and United States fish processors that are based in such community" (Sec. 3 [16]). The National Marine Fisheries Service (NMFS) further specifies in the National Standard guidelines that a fishing community is "...a social or economic group whose members reside in a specific location and share a common dependency on commercial, recreational, or subsistence fishing or on directly related fisheries dependent services and industries (for example, boatyards, ice suppliers, tackle shops)" (63 FR 24235, May 1, 1998). "Sustained participation" is defined by NMFS as "...continued access to the fishery within the constraints of the condition of the resource" (63 FR 24235, May 1, 1998).

Consistent with National Standard 8, this section identifies affected regions and communities and describes and assesses the nature and magnitude of their dependence on and engagement in the BSAI crab fisheries. While this section does not contain detailed analyses of the potential impacts of individual management alternatives or options under consideration in the main body of this Environmental Impact Statement (EIS), each community profile contains a general consideration of the direction and magnitude of change likely under the main alternatives.

1.0 BACKGROUND AND METHODOLOGY

For the purposes of this social impact assessment, a two-pronged approach to analyzing the community or regional components of potential change associated with the proposed crab management alternatives was utilized. First, summary tables based on existing quantitative fishery information (and accompanying narrative discussions) were developed to illustrate patterns of participation in the various components of the fishery, and these were presented in the main body of the EIS. This analysis, contained in Section 3.4.4 of the EIS, focuses on fishery sectors (harvesters, catcher processors, and processors) and portrays the existing conditions or baseline distribution of these sectors across communities and regions. The associated analysis of alternatives (Section 4.6.5 of the EIS) discussions looks at the potential differential distribution of impacts to communities and regions that could accompany potential changes in the sectors brought about by the various management alternatives. As discussed in Section 3.4.4, however, there are substantial limitations on the data that can be utilized for these purposes, based on confidentiality restrictions. A prime example of this is where a community is the site of a single processor, or even two or three processors. No information can be disclosed about the volume and value of crab landings in those communities. This, obviously, severely

limits quantitative discussions of the potential impacts of alternatives on those communities. In short, the frame of reference or unit of analysis in Section 3.4.4 is the individual sector. Combining information on the distribution of those sectors across communities with information on alternative induced changes to the individual sectors, it is (in theory) relatively straightforward to see how impacts to any given sector may be differentially distributed across communities and regions within this framework. The practicalities of data limitations, however, serve to restrict this discussion.

The second approach to producing a comprehensive social impact assessment involved selecting a subset of BSAI crab communities for characterization to describe the range, direction, and likely order of magnitude of social and community level impacts associated with the management alternatives for the relevant crab fisheries. The approach of using a subset of communities rather than attempting detailed characterization of all of the communities in the region(s) involved was chosen due to the practicalities of time and resource constraints. As noted in the main body of the document, and elaborated below, the total set of communities engaged in the fishery is numerous and far-flung. Communities (and types of potential or likely impacts) vary based upon the type of engagement of the individual community in the fishery, whether it is through being home port of a portion of the catcher vessel fleet, being the location of shore-based processing, being the base of catcher processor or floating processor ownership or activity, or being the location of fishery support sector businesses. In short, the approach employed in this document (Appendix 3 to the EIS), uses the community or region as the frame of reference or unit of analysis (as opposed to the fishery sector as in the first approach [in Section 3.4.4 of the EIS itself]). This approach examines, within the community or region, the local nature of engagement or dependence on the fishery in terms of the various sectors present in the community and the relationship of those sectors (in terms of size and composition, among other factors) to the rest of the local social and economic context. This approach then explores the likely social and community impacts that would result from the rationalization associated changes to the locally present sectors in combination with other community specific attributes and socioeconomic characteristics.

In terms of the catcher vessel or harvest sector component of the fishery, many communities across a very wide area are involved in the fishery, but marked areas of concentration of the fleet are apparent. Table 1.0-1 summarizes the location of the fleet by crab fishery participation for all communities in the 1991-2000 period that had two or more vessels (on an annual average basis) participate in the BSAI crab fisheries included in the proposed management alternatives analyzed in this EIS.[1] In addition to the communities listed in the table, a fairly long list of communities participated in the BSAI crab fisheries over the 1991-2000 era, but

[1] In this document, "PMA crab" is used in data tables as an abbreviated reference to relevant BSAI crab species that are being considered for inclusion in the Proposed Management Alternatives in this EIS (the rationalization alternatives, along with the status quo alternative). Crab species and stocks included in the proposed alternatives include Adak (Western Aleutian Islands [WAI]) brown (golden) king crab (*Lithodes aequispina*), Adak (WAI) red king crab (*Paralithodes camtschaticus*), Bristol Bay red king crab (*P. camtschaticus*), Bering Sea opilio (snow) crab (*Chionoecetes opilio*), Bering Sea tanner (*C. bairdi*), Dutch Harbor (Eastern Aleutian Islands [EAI]) brown (golden) king crab (*L. aequispina*), Pribilof blue king crab (*P. platypus*), Pribilof red king crab (*P. camtschaticus*), and St. Matthew blue king crab (*P. platypus*). Three additional species or stocks were originally proposed for inclusion in the rationalization program but were later excluded (and do not appear in the quantitative data tables in this section) due to low levels of harvest and/or recent multi-year closures: Dutch Harbor (EAI) red king crab (*P. camtschaticus*), EAI tanner (*C. bairdi*), and WAI tanner (*C. bairdi*). The rationalization program includes Adak red king crab west of 179° W Longitude and excludes it east of this line, but the tables in this section include data for this species/stock from both sides of the line. In the tables, the "non-PMA" crab designation includes all crab species not proposed for inclusion in the rationalization program including, among others, species covered by the BSAI crab FMP but managed under state discretion via an ADF&G commissioner's permit (e.g. AI scarlet king crab [*L. couesi*]), BSAI federal waters fishery crab managed by the state and not included in the FMP (e.g., Korean hair crab [*Erimacrus isenbeckii*]), low-volume primarily state water fisheries (e.g., Aleutian District Dungeness [*Cancer magister*], or non-BSAI FMP area federal fisheries (e.g., multiple Gulf of Alaska crab fisheries).

these communities averaged less than two vessels on an annual basis.[2] It is important to note, as discussed in the individual community profiles in this document (Appendix 3) as well as in the main body of the EIS (in Section 3.4.4), the number of participating vessels from a given community is not necessarily indicative of the relative volume and value of harvest associated with that community.

Table 1.0-1 Average Annual Number of Vessels Participating (qualified landings) in Relevant BSAI Crab Fisheries 1991-2000 by Community (with a minimum average of two vessels)

State	City	Bristol Bay Red (BBR)	Bering Sea Opilio (BSO)	Bering Sea Tanner (BST)	BBR/BSO/ BST Combined	Other 6 PMA Crab	Total All 9 PMA Crab
Alaska	Kodiak	28.6	31.9	20.9	37.1	19.6	38.6
	Homer	6.2	7.8	5.0	8.3	4.8	8.3
	Anchorage	4.3	5.6	2.7	6.1	3.2	6.1
	Sand Point	2.9	3.1	2.1	3.8	2.6	4.5
	Petersburg	3.1	4.0	1.9	4.0	1.6	4.0
	Unalaska	1.4	2.1	0.9	3.0	2.4	3.4
	King Cove	2.3	2.1	1.6	3.1	1.4	3.1
	Cordova	1.5	1.8	1.3	2.0	0.8	2.0
Oregon	Newport	6.9	7.5	4.5	9.4	4.9	10.6
Washington	Seattle-Tacoma CMSA*	107.3	125.8	75.3	146.0	68.8	147.2
	Bellingham	1.6	2.1	1.0	2.3	0.6	2.3

Notes: Average vessel counts for combined crab categories based on 10 years. Average vessel counts for individual crab fisheries are based on the number of years 1991-2000 each was actually open (BBR 8 years; BSO, 10 years; BST, 6 years).

* Seattle-Tacoma Consolidated Metropolitan Statistical Area, comprised of King, Pierce, and Snohomish Counties.

In terms of processing, crab processors include catcher processors, floaters, and shore-based plants spread over a broad geographic base of participation, but a marked concentration of capacity analogous to that seen in the catcher fleet is also present among processors. While there are over 100 facilities throughout Alaska that process BSAI crab, most crab is processed by the relatively limited set of American Fisheries Act (AFA) qualified processors located in Unalaska/Dutch Harbor, Akutan, and King Cove (NMFS 2002). Table 1.0-2 summarizes the location of operations for processors for all communities in the 1991-2000 period that had an annual average of greater than 0.5 processors participating in the BSAI crab fisheries covered by the proposed management alternatives. In addition to the communities listed in the table, around a dozen communities participated in the BSAI crab fisheries over the 1991-2000 era but averaged less than 0.5

[2] In addition to the communities shown in Table 1.0-1, participation of Alaska communities by fewer than an average of two vessels (in order of participation) included Kenai, Seldovia, Yakutat, Seward, Sitka, Akutan, and Soldotna. In Washington, named places within the Seattle-Tacoma Consolidated Metropolitan Statistical Area (CMSA) that included an average greater than two vessels included Seattle, Edmonds, Bellevue, Lynnwood, and Mercer Island; communities in the Seattle-Tacoma CMSA with an average of less than two vessels included Milton, Bothell, Mill Creek, Redmond, Snohomish, Kirkland, Stanwood, Woodinville, Shoreline, Mukilteo, Gig Harbor, Issaquah, Kent, Bainbridge Island, Brier, Carnation, Monroe, Vashon, Everett, Federal Way, and Tacoma. Communities in Washington outside the Seattle-Tacoma CMSA that included an average of less than two vessels included Chehalis, Cathlamet, Olympia, Sedro Wooley, Edison, Polsbo, Curtis, Manson, Oysterville, Longview, Ocean Shores, Camano Island, Anacortes, Clinton, Nahcotta, Oak Harbor, and South Bend. Communities in Oregon with less than two vessels annual average participation included Prineville, Seal Rock, Cascade Locks, Warrenton, Hammond, South Beach, and Depoe Bay. Communities in other states with fewer than two vessels annual participation include Richmond CA, Stryker MT, Kailua (Kona) HI, Emmett ID, Swanlake MT, Brewster MA, Mankato MN, Lake Havasu AZ, and Lakeside MT.

processors on an annual basis.[3] As shown in the table, not all processors have designating operating areas and are thus not assigned to communities. These include catcher processors, and a number of (but by no means all) floating processors. This table (Table 1.0-2) is intended to portray the geographic spread of processing by number of processing facilities; caution should be applied if this information is used for other purposes. A primary caution is that the number of participating entities in a community does not necessarily correspond to volume and value of crab processed. For example, while Kodiak is shown as the number three community in terms of average annual number of processors running BSAI crab, this represents a relatively low volume and value of crab compared with some other communities, as discussed in the Kodiak community profile. Similarly, a small number of processors does not equate to an insignificant amount of

Table 1.0-2 Average Annual Number of Processors in Relevant BSAI Crab Fisheries 1991-2000 by Community (with a minimum average of 0.5 processors)

Designation Status	City	Bristol Bay Red (BBR)	Bering Sea Opilio (BSO)	Bering Sea Tanner (BST)	BBR/BSO/ BST Combined	Other 6 PMA Crab	Total All 9 PMA Crab
Operating Area Designated	Unalaska	7.1	9.1	8.5	9.7	5.7	9.9
	St. Paul	0.9	5.9	2.0	5.9	2.4	5.9
	Kodiak	3.4	3.0	6.2	5.3	1.2	5.4
	St. Matthews	0.0	0.3	0.0	0.3	1.9	2.2
	King Cove	1.0	1.5	1.3	1.7	0.8	1.7
	Anchorage	0.5	0.7	1.0	1.2	0.6	1.3
	Port Moller	1.1	0.0	1.5	1.2	0.0	1.2
	Akutan	1.0	1.0	1.2	1.1	0.8	1.1
	St. George	0.0	1.0	0.2	1.1	0.0	1.1
Operating Area Not Designated	Catcher Processors	10.8	16.0	15.7	16.6	5.9	17.5
	Undesignated Floaters	3.4	5.1	7.0	8.3	2.3	9.0

Notes: Multiple facilities operating in the same location for the same processor were only counted once (most commonly multiple floaters).
Facilities of the same company operating in different communities were counted in each such community.
Floaters were counted once for each community in which they operated in any given year.
Floaters assignable to specific locations were so assigned – others are shown as "undesignated."
Catcher processors by definition have no specific processing location
Averages for individual fisheries were calculated using only those years each fishery was open in the period 1991-2000.

Source: Summarized from the NPFMC Bering Sea Crab Data Base/2001_1

crab being processed. For example, while specific production figures are confidential, it is common knowledge that the single plant in Akutan is a relatively large operation, so this community may see more crab processed locally than some communities with more processing entities present. It is also important to note that although BSAI crab processing operations take place in Alaska, and Alaskan communities derive

[3] In addition to the communities shown in Table 1.0-2, participation of Alaska communities with fewer than an annual average of 0.5 processors over the years 1991-2000 include Adak and Homer (0.4 average); Cordova, False Pass, and Wasilla (0.3 average); Naknek and Ninilchik (0.2 average); and Chignik and Dillingham (0.1 average). In addition to communities, Kiska (an island in the Rat Islands group in the far western Aleutians), Lost Harbor (a bay on the western side of Akun Island, in the Fox Islands group of Aleutian Islands to the east of Akutan), and Tanaga (in the Andreanof Islands group of Aleutian Islands approximately 50 miles west of Adak), three geographic areas without nearby communities/resident populations, are listed as having seen some processing activity during this time (each has a 0.1 average). The data set also shows that an annual average of 0.3 processors operated in the South Region that do not have a community associated with the processing records.

substantial benefits from these operations (through tax revenues, associated business activity, and so on), the ownership of crab processors or, perhaps more accurately, the ownership/management of the large majority of crab processing capacity is largely concentrated in Seattle.

In terms of the location of the BSAI crab fishery support sector, as discussed in the individual profiles, Unalaska/Dutch Harbor is the center of support for the fishery within Alaska, with a secondary cluster of businesses in Kodiak. In the smaller participating communities, fleet support is typically provided through processor facilities. In the Pacific Northwest, and for the fishery as a whole, the greater Seattle area is the center for the BSAI crab fishery support service sector.

As discussed in the main body of the text, the North Pacific Fishery Management Council (NPFMC) recently completed a process of evaluating several major management alternatives to rationalize the BSAI crab fisheries, including Individual Fishing Quota (IFQ) type models and fishery cooperative models. Each of these primary models included options for inclusion of processor interests and fishery community interests. The specific rationalization program developed as the preferred alternative by the NPFMC, the "three-pie" approach, has become one of the main alternatives in this subsequent EIS. A major consideration in the rationalization analysis process was the potential economic impacts to the various sectors in the crab fisheries, as well as the social and economic impacts to communities and regions dependent upon these fisheries. This focus has extended to the EIS analysis process. The purpose of the information contained in this section is to supplement the NPFMC and NMFS staff analyses with information relevant to the assessment of potential community and regional social impacts. The communities profiled in this section include:

- **Unalaska/Dutch Harbor** - as the Alaskan center of the processing and support sectors for the fishery (among other ties). Good recent information exists for the community in other NPFMC/NMFS documents but tends to be groundfish oriented. Limited fieldwork was conducted in the community to fill this gap.

- **Akutan** - as a center community in terms of processing, but with very limited engagement via direct harvest participation and/or support service sector involvement. Akutan is unique in its blend of a developed processing location and Community Development Quota (CDQ) status, and nature of the industrial enclave and traditional village distinctions seen in the community. Relevant recent material was available from earlier NPFMC/NMFS documents, but was somewhat dated. Due to logistical and other pragmatic considerations, this community profile was updated with available secondary information and supplemented with a limited amount of data gathered in a few interviews with relevant processing and municipal entity personnel in Anchorage and Seattle.

- **King Cove** - as a non-center community, but heavily involved in the fishery, primarily due to local processing, and with some local harvest engagement. There is some relevant recent material available from earlier NPFMC/NMFS documents, but much of the material is quite dated. Limited fieldwork was conducted in the community to supplement these data.

- **Sand Point** - like King Cove is a non-center community, but is involved in the fishery primarily through local harvest engagement. No BSAI crab processing has taken place in the community in recent years. Relevant recent material was available from earlier NPFMC/NMFS documents but was somewhat dated. Due to logistical and other pragmatic considerations, this community profile was updated with available secondary information and supplemented with limited data gathered in a few interviews with relevant entity personnel in Anchorage and Seattle.

- **Adak** - as a developing fisheries community, in marked counterpoint to the existing developed communities, as rationalization approaches based on historical participation would have

fundamentally different impacts in a developing rather than an established community. There is virtually no current descriptive information available on the community. This is an important study community due to the conversion from a military to a civilian community, the links of the community to the regional Alaska Native Claims Settlement Act (ANCSA) corporation, its unique position in the western Aleutians, and the importance of local fisheries development for the economic viability of the community. It is also important as a representative community of potential preclusion issues associated with rationalization. The analysis of these factors was addressed through limited fieldwork in the community.

- **St. Paul** - as the focus of the "North Region" in the crab analysis. The most recent comprehensive fisheries-oriented community profile dates from Inshore/Offshore-1 a decade ago and required updating. Limited fieldwork was conducted in the community to address this shortcoming.

- **St. George** - as a "North Region" region community with relatively low levels of historic participation in the fishery and one that is therefore potentially vulnerable to preclusion from future consideration in the fishery. St. George may also be seen as representative of communities that have benefitted from mobile but not "permanent" shore processing. Recent NPFMC/NMFS documents do not contain detailed information on the engagement of the community in the fishery, and limited fieldwork was conducted in the community to address this shortcoming.

- **Kodiak** - as the Alaskan center of the harvest sector of the fishery (among other ties). There was recent material to build upon from earlier NPFMC/NMFS documents, but it was groundfish oriented, and in some cases quite dated. Limited fieldwork was conducted in the community to supplement these data.
- **Seattle** - as the economic center of the fishery, both for the Pacific Northwest as a region and the fishery as a whole. Like Unalaska/Dutch Harbor, good recent information exists from recent NPFMC/NMFS documents but is groundfish oriented. This has required updating, and some limited fieldwork was conducted as a supplement to compiling secondary data.

- **Community Development Quota region** - due to CDQ-specific program links to the fishery. This profile builds on analysis that was completed for earlier NPFMC/NFMS documents, particularly the Steller Sea Lion Protection Measures Supplemental Environmental Impact Statement (SEIS). (NMFS 2001a). This update was performed using secondary data.

A more detailed discussion of the specific methodological approach used for this section is provided in Social Impact Assessment (SIA) Attachment 1: Social Impact Assessment Study Methodology.

2.0 ALASKA COMMUNITIES

2.1 INTRODUCTION

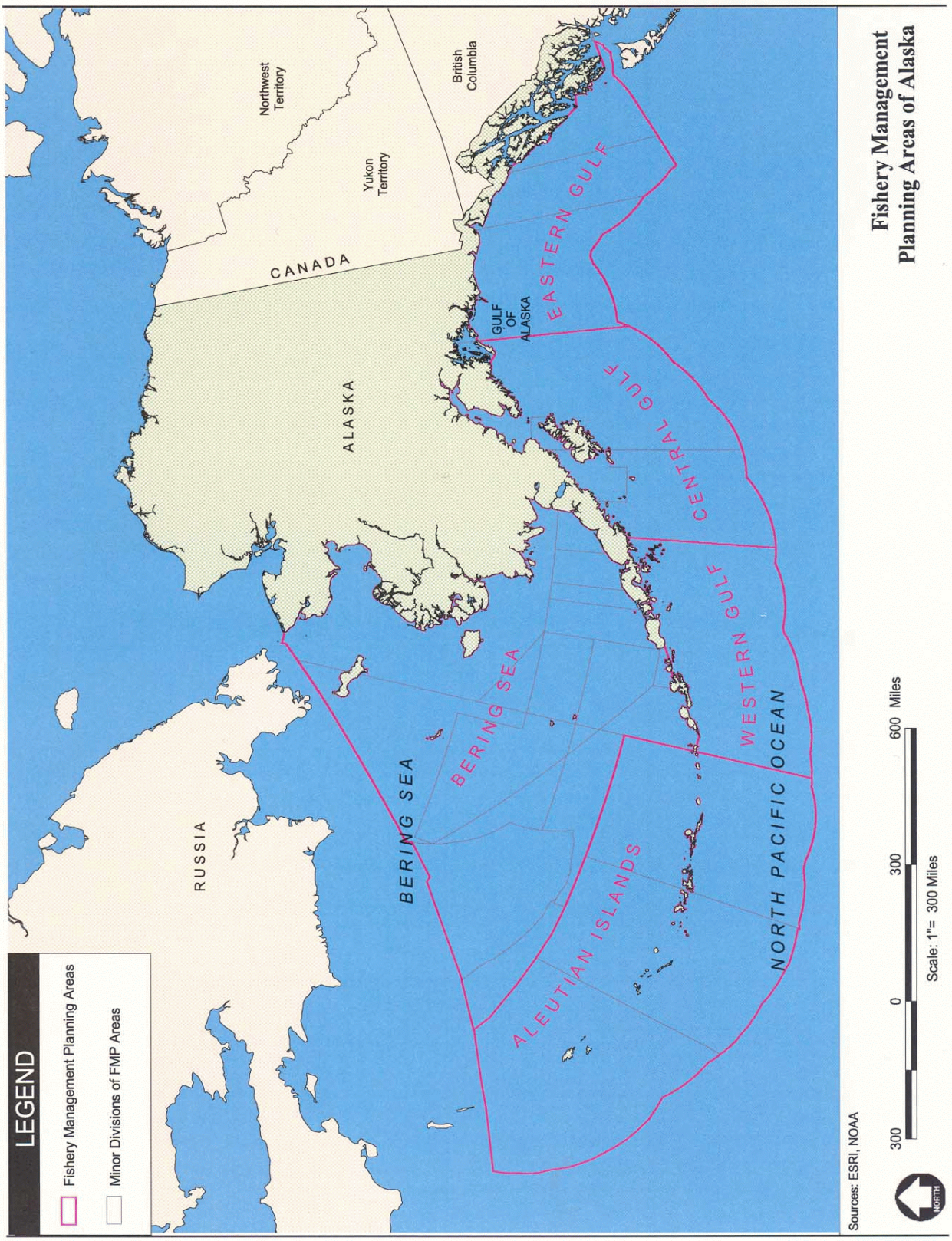
In this section, eight Alaska communities with direct links to the BSAI crab fishery are profiled in detail. These are Unalaska, Akutan, King Cove, Sand Point, Adak, St. Paul, St. George, and Kodiak. These communities vary in their geographic relation to the fishery; their historical relationship to the fishery; the nature of their contemporary engagement with the fishery through local harvesting, processing, and support sector activity or ownership; their local governmental structures; their participation in the CDQ program; and their contemporary social and economic structures. Each of these factors alone and in combination influences the direction and magnitude of potential social impacts associated with the BSAI crab fishery proposed management alternatives. These alternatives are mentioned in overview in this introductory section and are developed as appropriate and relevant in the individual community profiles. Additionally, with respect to the rationalization alternatives, there have been "lessons learned" through experience with other instances of fisheries rationalization programs, notably the halibut and sablefish IFQ programs and the pollock cooperatives institutionalized under the provisions of the AFA. These are also mentioned in overview in this introduction section and detailed where appropriate in the individual community profiles. Finally, this introduction contains an overview of the likely social impacts of the crab fishing capacity reduction program that is occurring in parallel with this proposed management alternative analysis effort.

Community Variability

The communities involved in the BSAI crab fisheries vary along a number of important dimensions that serve to differentiate the present communities in terms of their engagement in and dependency on the fisheries and that would serve to influence the differential distribution of impacts that would result from the various proposed management alternatives. These dimensions are briefly summarized in this section and include location and historical ties to the fishery, local governmental structures, participation in the CDQ program, and the contemporary social and economic structure of the communities.

Location and Historical Ties to the Fishery

BSAI crab fishery communities are spread over a wide geography. St. Paul and St. George, located in the Pribilof Islands, are literally in the middle of the Bering Sea. Unalaska, Akutan, and Adak, on the Aleutian Chain, are located on the southern rim of the Bering Sea. King Cove, Sand Point, and Kodiak, on the Alaska Peninsula, Popof Island, and Kodiak Island, respectively, are located on the Gulf of Alaska; nonetheless, significant BSAI commercial fishery processing takes place in these communities. In general, Aleutians East Borough (AEB) communities on or near the Alaska Peninsula, such as King Cove and Sand Point, have typically accessed fishery resources in both the Bering Sea and the Gulf of Alaska, whereas the Aleutians West Census Area communities have focused more on Bering Sea (and Aleutian Islands) area fishery resources. While this theoretically gives the AEB communities an increased range of flexibility, in practical terms it means that these communities are also vulnerable to downturns of fisheries in either major area. Kodiak vessels and plants have historically harvested and processed more distant BSAI resources as well as geographically more readily accessible Gulf of Alaska resources. Figure 2.1-1 shows the location of the FMP areas for the Bering Sea, Aleutian Islands, and Gulf of Alaska. Figure 2.1-2 shows the location of the communities in the Aleutians West Census Area and the AEB. Figure 2.1-3 shows the location of the communities within the Kodiak Island Borough.



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These communities profiled have very different histories with respect to the Bering Sea and Aleutian Islands crab fisheries. Early in the development of these fisheries, Kodiak was the center of crab processing. Somewhat later, Unalaska/Dutch Harbor emerged as the center of both processing and fishery support activity, a position it has held since the crab boom years of the late 1970s. Akutan, as a village proper, has had little direct involvement with the commercial fisheries of the region, but it has also been the site of commercial trapping, whaling, and fisheries activity for over a century. King Cove, a community with a substantial fisheries-based economy for the better part of a century, has emerged as a multispecies-dependent community wherein crab plays a major role. Sand Point has a history similar to that of King Cove, but it has seen no processing engagement with BSAI crab in recent years. St. Paul and St. George have quite a different historical relationships to local commercial natural resource utilization than Unalaska, Akutan, King Cove, or Sand Point. Both St. Paul and St. George were founded upon and for decades were sustained by a commercial harvest of marine mammals rather than fishery resources. Further, these Pribilof communities face fishery development challenges not seen in the other communities profiled. Despite being adjacent to waters where a great deal of crab harvest activity takes place, St. Paul has seen little onshore commercial fisheries-related development, due to a lack of adequate harbor facilities and infrastructure as well as logistical challenges inherent in a location that is relatively remote from major transportation routes and the environmental constraints of more extreme weather and ice conditions resulting from its northerly location. St. George has seen considerably less shore-based processing activity than St. Paul and faces even greater harbor challenges than its larger neighbor.

Adak has yet a different historical relationship to the fishery. Like St. Paul and St. George, Adak historically did not have a commercial fisheries-based economy. While some commercial fishing related activity has taken place over the years, Adak was first and foremost (and virtually exclusively) a military community until very recently. This has meant that the recently emerged civilian community is essentially attempting to build a fisheries-based local economy from scratch. Kodiak, which early in the development of the Bering Sea crab fishery was at its economic if not geographic center, has in more recent years effectively been pushed to the periphery of this fishery by the development of crab harvesting, processing, and fishery support capacity elsewhere. These varying historical relationships with the fisheries have served to shape the contemporary involvement with the BSAI crab fisheries and will influence the way that social impacts resulting from crab fishery management decisions will be differentially distributed between and within communities.

Changes in the pattern of distribution of BSAI crab harvesting, processing, or ownership of (or effective access to) quota could have both direct and indirect economic consequences for any or all of the principal ports. While it is clear that changes in overall quota would have an impact on these communities (and have in the past), major shifts in the way even a constant quota or total allowable catch (TAC)/guideline harvest level (GHL) is pursued could serve to effectively shift resources between and among sectors and associated communities. In addition to the historical/structural differences between communities, these impacts would not be uniform in distribution across the eight communities profiled, owing to proximity to fishing grounds, differing natures of resident and nonresident fleets that make local and non-local deliveries, locally owned or locally sited processing plant capacity and capability differences, availability and variety of support facilities offered, and intermediate and final markets served, among other factors.

Local Governmental Structures and the Aleutians East Borough

Beyond the differences in the localized structure of the fisheries and the associated private sector businesses in the communities that tend to channel fishery management-related social or socioeconomic impacts, there are also differences in public sector structures and these also influence the nature and magnitude of potential localized social impacts. The communities have somewhat different local government structures, and this, in turn, influences the distribution of public revenues that accrue from the crab fishery. Unalaska/Dutch Harbor, Adak, St. Paul, and St. George are municipalities outside of organized boroughs. Akutan, King Cove,

and Sand Point are part of the AEB, and Kodiak is part of the Kodiak Island Borough. Whether or not communities are within a borough has a direct impact on the way that fishery-associated tax revenues are distributed among and between communities, including regional communities not directly involved with the fishery. This is nowhere more obvious than in the AEB, where Akutan, King Cove, and Sand Point are the primary drivers of the fisheries-based portion of the borough economy. The Kodiak Island Borough is discussed in overview in the Kodiak community profile which notes the borough participates in the BSAI crab fisheries to a very large degree through the community of Kodiak itself. Since the AEB spans three major communities that participate directly in the open access BSAI crab fisheries and others that participate in the CDQ portion of the fisheries, some additional information on the AEB itself is presented here.

While local (community) revenues are discussed in the individual community profiles, the following is a brief description of the interrelationships of revenues within the AEB structure:

- According to the AEB Manager (Juettner, personal communication, 2001[4]), the AEB will receive a total of $1.4 million as its share of the Fishery Business Tax (FBT) for the 2000 fishery from all species including groundfish, crab, salmon, and other fisheries processed in the AEB. The State of Alaska shares the FBT (calculated generally as 3 percent of ex-vessel value) as follows:
  - 1.5 percent goes to the state
  - 1.5 percent (i.e., one-half of the 3 percent collected) goes to the local governments in whose jurisdiction the processing occurs, which in turn is split 50 percent to the city and 50 percent to the borough[5]
- All of the processing in the AEB takes place within cities in the borough, and therefore the borough shares all of the FBT 50-50 with the city in which the processing occurs. Therefore, the AEB's $1.4 million FBT revenue represents 0.75 percent of the total ex-vessel value processed in the AEB (with the other 0.75 percent [i.e., the other half of the 1.5 percent the state shares with local governments] going directly to the cities). Dividing $1.4 million by 0.0075 yields an estimated $187.7 million total ex-vessel value of processing in the AEB. Unfortunately for the purposes of further analysis, information from the AEB indicating species-specific ex-vessel values is confidential and cannot be released.
- In addition to the State FBT, the AEB and each community within the AEB collects local fish taxes of 2 percent, except for Akutan, which taxes at a 1 percent rate. Thus, all processors in the AEB (with the exception of Akutan) pay 5.5 percent of ex-vessel value in taxes, and for Akutan the analogous figure is 4.5 percent. Assuming that roughly 50 percent of the total tax revenue was generated in Akutan and 50 percent in other communities within the AEB, the average fish tax collected in AEB communities is 5 percent of the total ex-vessel value.

It is also important to note that significant impacts through loss of fishery-related revenue that could result from fishery management actions would be felt in all AEB communities, not just those communities directly engaged in the fishery. This is the case because communities without major processing plants (Cold Bay,

[4] Juettner, Robert, Borough Manager, Aleutians East Borough, AK. Personal communication 7/01

[5] If processing occurs outside of any local government jurisdiction (for example, when a floating processor operates in Beaver Inlet on Unalaska Island), the state shares the taxes with all communities in the "unorganized borough" (i.e., all communities in the state outside of organized boroughs). This includes communities such as Unalaska and Adak (and many other communities throughout the state), but not King Cove or others within the AEB.

False Pass, and Nelson Lagoon) normally benefit from borough expenditures that are made possible by collection of fishery-related revenue in communities with major plants (Akutan, King Cove, and Sand Point). Given that changes in tax revenue resulting from changes in crab landing patterns in one community within the borough are directly linked to expenditures in other communities in the borough (for example, a decline in fish tax revenue in King Cove paid to the AEB would impact Nelson Lagoon if it were large enough to necessitate reductions in school expenditures), the borough structure would serve to distribute impacts to communities in a different way than seen in the rest of the region that has no such structure. A recently released report commissioned by the AEB (McDowell Group 2001) underscores the importance of commercial fisheries to the AEB as a whole by noting that seafood industry accounts for approximately 99 percent of the AEB's basic economic employment, 76 percent of all employment, and – through fish taxes – 40 percent of the operating budget for the AEB government. An additional AEB commissioned report regarding groundfish trawling restrictions (Noble 2000) provides additional quantitative detail on borough fisheries engagement as do two recent studies on groundfish related assessments (Northern Economics 2001a, 2001b).

While quantitative data on fish taxes from individual communities within the AEB are subject to confidentiality restrictions, Table 2.1-1 presents direct fish tax revenue data for the borough as a whole for all fisheries. As shown, there is considerable variability from year to year, ranging between $3 million and $5 million over the span 1990 to 2001. Because of the limited number of processors for some individual species, it is not possible to break out the relative importance of species for revenues to communities, but some detail on the relative importance of crab relative to groundfish and salmon for the harvest fleet at the borough level and for selected communities may be found in a study recently commissioned by the Southwest Alaska Municipal Conference (Northern Economics 2001c), and individual fleet characteristics with respect to the crab fishery itself are discussed in the individual community profiles in the following sections of this document. Public testimony from the AEB before the NPFMC during the BSAI management alternative selection process suggests that crab ranged from slightly under one-tenth to over one-third of the borough's fish tax revenue from year to year since FY 1994, with a cumulative total of roughly one-quarter of annual borough fish taxes over this time period.[6]

[6] The AEB (and some of its constituent communities) have also released species and community-specific data during the public testimony process that cannot be presented in the body of this document due to confidentiality restrictions. Some of these data were presented in written form and were available at NPFMC meetings in 2002 and will likely appear in the compendium of public comments that will accompany this EIS.

Table 2.1-1 Aleutians East Borough Selected Fisheries-Related Revenues (in dollars), Fiscal Years 1990-2001

Fiscal Year	Selected Fishery Revenue Source				Four Source Total
	Borough Raw Fish Tax	State Raw Fish Tax	State Extra-territorial Fish Tax	State Fish Landing Tax	
FY 1990	$2,004,264	$1,080,522	$0	$0	$3,084,786
FY 1991	$2,923,085	$1,386,428	$0	$0	$4,309,513
FY 1992	$2,418,881	$2,392,602	$0	$0	$4,811,483
FY 1993	$3,083,980	$1,792,032	$0	$0	$4,876,012
FY 1994	$2,557,500	$2,424,754	$54,877	$0	$5,037,131
FY 1995	$2,340,656	$1,834,575	$57,358	$0	$4,232,589
FY 1996	$2,423,460	$1,179,272	$61,214	$0	$3,663,946
FY 1997	$2,183,802	$1,367,815	$59,745	$0	$3,611,362
FY 1998	$2,236,242	$989,420	$97,193	$135,370	$3,458,225
FY 1999	$2,543,559	$1,212,391	$92,098	$97,535	$3,945,583
FY 2000	$3,255,513	$1,132,709	$108,599	$33,877	$4,530,698
FY 2001	$2,348,939	$1,409,784	$127,668	$17,448	$3,903,839

Source: Aleutians East Borough General Fund Statement of Revenues, Expenditures and Changes in Fund Balance - Budget and Actual, summary sheets supplied by AEB staff, October 15, 2002

Participation in the CDQ Program

Another factor that serves to differentiate the potential crab rationalization-related impacts to communities is the CDQ program. Relatively thorough summaries of the CDQ program, including its origins, historical and current structure, and present allocations within CDQ fisheries have been presented in recent NPFMC and NMFS documents (e.g., the Inshore/Offshore-3 analysis [NPFMC 1998a] and the Steller Sea Lion Protection Measures SEIS [NMFS 2001a]) and will not be recapitulated here. While the actual standards are more complex, in general to qualify as a CDQ community, a community must meet the following criteria: (1) be recognized as an Alaska Native village under the terms of the ANCSA, (2) be located within the CDQ qualifying region, defined as a swath within 50 nautical miles of the Bering Sea coast (but even within this area the community cannot be located on the Gulf of Alaska coast), and (3) not have previously developed harvesting or processing capability sufficient to support substantial participation in the groundfish fisheries of the Bering Sea (but the community must still consist of residents that conduct more than one-half of their commercial or subsistence fishing effort in the Bering Sea or waters around the Aleutian Islands).[7] Unalaska, King Cove, and Sand Point, although ANCSA communities and within the geographic CDQ region, did not

[7] Full qualification criteria are found in Sec. 305(i)(1)(B) of the Magnuson-Stevens Act.

qualify as CDQ communities due to preexisting commercial fisheries development,[8] and King Cove and Sand Point had the additional disqualifying factor of being located on the Gulf of Alaska coast. Kodiak, also an ANCSA community, did not qualify as it was outside of the CDQ region (even if it were within the region, it would not have qualified due to existing fishery development). Adak, which falls within the CDQ region and arguably does not have a substantial/developed fishery, did not qualify for CDQ membership because it did not qualify as an ANCSA village.[9] St. Paul did qualify as a CDQ community and is the sole community in the Central Bering Sea Fishermen's Association CDQ group. St. George also qualified as a CDQ community but unlike St. Paul is included within the Aleutian Pribilof Islands Community Development Association (APICDA). Akutan went through a somewhat more complicated process but did eventually attain CDQ status and, like St. George, is part of APICDA.[10] As a result of their CDQ status, Akutan, St. Paul, and St. George participate in different ways in the crab fishery (and other CDQ species fisheries) than do the other communities profiled.

Community Social and Economic Structure

A final major factor in the differentiation of likely social impacts of BSAI crab rationalization between communities is the basic social and economic structure of the communities themselves. As detailed in the individual community profiles, the communities vary widely in their demographic structures and their local economies. In terms of demographics, the communities range from predominantly Alaska Native populations to those with populations more ethnically diverse in proportion to their total population than large metropolitan areas such as Seattle. They also vary widely with respect to the degree to which the labor for direct fisheries as well as support sector businesses is drawn from a local labor pool or imported from other communities or regions. In terms of local economies, some communities are relatively diversified and some are not. Further, the communities vary widely in how relatively important BSAI crab is in terms of the overall local fishery economic sector, as well as how important commercial fisheries in general are relative to the overall local economy.

Community Experience with Other Contemporary Fisheries Rationalization Programs

In terms of a general level of overview of potential impacts from the BSAI crab fishery proposed management alternatives, this section will not dwell on either the status quo alternative but, rather, will focus on the

[8] As discussed in the Unalaska community profile, Unalaska is an *ex officio* member of the local CDQ group, the Aleutian Pribilof Islands Development Association (APICDA), and as a result Unalaska residents do derive at least some indirect benefits of the program, such as access to training programs and some monetary support for expenses incurred by the Unalaska Native Fisherman's Association in order to remain an active participant in the fishery management process.

[9] Although Adak currently has a population that is over one-third Alaska Native and is essentially managed by the Aleut Corporation, the Aleutian/Pribilofs regional ANCSA corporation, it was a non-Native military community at the time of the passage of ANCSA [1971]).

[10] Initially (in 1992), Akutan was (like nearby Unalaska) deemed not eligible for participation in the CDQ program based upon the fact that the community was home to "previously developed harvesting or processing capability sufficient to support substantial groundfish participation in the BSAI . . ." although they met all other qualifying criteria. The Akutan Traditional Council initiated action to show that the community of Akutan, per se, was separate and distinct from the seafood processing plant some distance away from the residential concentration of the community site, that interactions between the community and the plant were of a limited nature, and that the plant was not incorporated in the fabric of the community such that little opportunity existed for Akutan residents to participate meaningfully in the Bering Sea pollock fishery (i.e., it was argued that the plant was essentially an industrial enclave or worksite separate and distinct from the traditional community of Akutan and that few, if any, Akutan residents worked at the plant). With the support of APICDA and others, Akutan was successful in a subsequent attempt to become a CDQ community and obtained that status in 1996.

rationalization alternatives. The communities that would potentially experience social impacts from the BSAI crab fishery proposed management alternatives have experienced impacts related to rationalization efforts in other commercial fisheries in recent years. While some of the experience will be useful in anticipating impacts of crab rationalization, there are distinct differences between existing fishery rationalization programs and the components of the BSAI crab rationalization alternatives in terms of likely social impacts. The applicability of the existing programs to the proposed program is presented in overview in this section. The crab rationalization program component approaches and their analogs are as follows:

- **IFQ approach**. IFQ management is now in place for area halibut and sablefish fisheries. The relevant parts of that experience are summarized below.

- **IFQ Plus Individual Processor Quota (IPQ) approach**. Assignment of processor quota shares alone or in combination with IFQs as proposed in the "three-pie" system (or in the earlier considered "two-pie" system) is without precedent in local fisheries, so there is no analog experience from which to draw.

- **Cooperatives**. Co-ops are now used in the Bering Sea pollock fishery. The relevant parts of that experience are summarized below.

- **Regionalization**. Regionalization, or the third part of the three-pie system, is not a rationalization approach in and of itself, but it functions as part of a rationalization alternative in conjunction with what are effectively harvester and processor allocations (and co-op provisions). There is no good analog experience in local fisheries for looking at likely social impacts as a result of regionalization. There are, of course, programs in other fisheries that are intended to localize fisheries, through assigning quota to particular geographic areas and then restricting access or movement between areas, with the most restrictive of these being "super exclusive" areas where access is completely restricted to a set of harvesters committed to that area only for a particular fishery (with the typical goal of effectively eliminating outside access to a localized fishery or serving to create or protect a local, small, or underdeveloped fishery set aside). In the proposed "three-pie" alternative, however, the BSAI crab regionalization provision is structurally quite different from harvest restriction areas in that it is a geographically directed processing rather than harvesting initiative. In some ways, it is like the processing component of the three-pie structure given that it is a processing lock-in for whatever entities are operating in the area. In other ways it functions like a CDQ structure (in terms of essentially guaranteeing a community or region a revenue stream based on exclusive access to a portion of the TAC/GHL) but on the processing rather than harvesting side of the fishery, and with the more-or-less ensured revenue being realized in the form of municipal revenues rather than as income of one form or another to the CDQ group.

The following subsections summarize the local IFQ and co-op experience relevant to potentially similar social impacts that could result from the "three-pie," IFQ, or co-op approaches to rationalizing the BSAI crab fishery. Limitations of the applicability of the "lessons learned" are also noted.

IFQ Experience

The communities that would experience social impacts as a result of the selection of a rationalization approach for the management of the crab fishery have already experienced an IFQ rationalization of the halibut and sablefish fisheries. Some aspects of this experience are relevant in attempting to anticipate likely social impacts that could result from a similar style of crab fishery management, or an alternative that includes a component that is a functional equivalent of IFQs. However, there are limitations of what is actually known in terms of specific impacts from the transition of the halibut and sablefish fisheries to an IFQ system. In its

comprehensive document *Sharing the Fish: Toward a National Policy on Individual Fishing Quotas*, the National Research Council, reviewing the Alaska halibut fishery came to the following conclusions regarding "Economic and Social Outcomes for the Fishery":

> "Due to lack of studies and data it is not possible to quantify the net economic impact of the IFQ programs . . . Although the season length has increased from 5 days to 245 days per year for both species and landings are now broadly distributed throughout the season, it is uncertain how costs and revenues have been affected. . . . The effect of the IFQ programs on halibut ex-vessel price and on costs and revenues for processors, communities, and consumers are even less well understood. There is anecdotal evidence that an increasing number of halibut fishermen are bypassing traditional processors and marketing directly to wholesalers and retailers, but the magnitude and impact of this phenomena has not been documented" (National Research Council 1999:77).

One comment commonly received from processors in this and other work for the NPFMC/NMFS is that their profit margin on halibut has declined dramatically since IFQs, implying that fishermen are gaining more of the rent from the fish. The numbers involved have not been disclosed, nor is the systemic impact of this change in relative leverage documented, e.g., how much of this in turn goes to pay for (capitalize) the transfer of IFQs. Given this lack of solid information, it is difficult to generalize this experience to likely crab IFQ impacts, other than to note that the change in relative bargaining position would be a likely outcome.

One of the main differences between the halibut and IFQ sablefish experience and the likely crab experience under a rationalization program is the limitation on season lengths. Whereas the pursuit of halibut, a single species fishery, can be expanded to a large proportion of the year, the multispecies crab fisheries have shorter windows of opportunity, even under ideal biological conditions, which would tend to limit at least some of the theoretical community level gains made possible by slowing the fishery. The possibility of bypassing traditional processors in an IFQ system is an expressed concern of crab processors, but the National Research Council found that at the community level at least for the higher volume ports, redirection of landings did not result in wholesale shifts between communities.

> "The top five halibut ports have remained the same, with occasional reordering. . . The top sablefish ports have also been generally consistent . . . The quota share market has been active, with more than 3,800 permanent transfers in the halibut fishery and more than 1,100 in the sablefish fishery. These transfers have led to some consolidation. The number of quota holders declined by 24 percent in halibut and 18 percent in sablefish between January 1995 and August 1997. However, the number of quota shareholders still exceeds the annual maximum number of participants in the pre-IFQ fisheries. In both fisheries, the bulk of consolidation that has occurred has taken place in smaller holdings. There is anecdotal evidence that fishermen have reduced crew size and that quota shareholders are crewing for each other. However, since there are few data on pre-IFQ crewing practices, it is difficult to determine the magnitude of changes or the opportunity costs of crew who are no longer in these fisheries" (National Research Council 1999:77).

Looking at community-specific impacts, this same study noted that a lack of data prevented a definitive analysis. Under the heading "Economic and Social Outcomes for Fishery-Dependent Communities" the National Research Council concluded:

> "The economic and social outcomes of the halibut and sablefish IFQ programs for dependent communities are largely anecdotal. Continued low prices for salmon have made halibut and sablefish catches increasingly important for regional fishing economies. The regional

> impacts of reduction in crew size are unknown because information on crew participation in the pre-IFQ fisheries, their residencies, demographics, and opportunity costs is limited and has not been compiled adequately" (National Research Council 1999:77).

More recent studies have looked at the broad trends of change that have occurred under the halibut and sablefish IFQ programs. A study conducted for the Food and Agriculture Organization of the United Nations (FAO) (Hartley and Fina 2001) noted that while capacity reduction in the halibut and sablefish fisheries had occurred, it had not occurred to the extent that many had predicted prior to the implementation of the program.

> There are several reasons why capacity in the sablefish and halibut fisheries has not declined as much as theoretically possible. The primary reason is that the majority of participants has viewed the sablefish and halibut fisheries as a means of supplementing income from other major fisheries such as the salmon, crab, and groundfish fisheries, for which many of the vessels were built. These other fisheries are also seasonal, and participants are able to fish sablefish and halibut without disrupting their participation in the other fisheries. For most participants, the sablefish and halibut fisheries are two of several seasonal fisheries in which the vessels participate. A second, very important reason that large-scale fleet reductions have not occurred is that NPFMC, which designed the systems, wished to maintain the existing nature of the fisheries, and to that end, created restrictions that prevent excessive consolidation (Hartley and Fina 2001).

A different feature of the crab fishery in terms of consolidation is that there is currently a directed effort at fleet consolidation that is separate but parallel with the rationalization effort. This program is described below, but it is important to note at this point that likely consolidation within the crab fleet would occur not only because of consolidation incentives inherent in a functional equivalent of an IFQ system, but also because of a co-occurring program explicitly designed to remove excess capacity from the fleet. The FAO study noted that within the halibut and sablefish fisheries the consolidation/reduction of quota share (QS) holders, vessels, and direct fishery participants (crew members) each happened at different rates. The number of halibut QS holders declined by 25 percent in the first 5 years of the IFQ program, and the number of sablefish QS holders declined slightly more than 10 percent. Fleet size change occurred at a different rate.

> In the first year of the IFQ program, the number of vessels participating in the halibut fishery dropped by more than one-third. By the fifth season, the number of vessels had dropped to less than half of the pre-IFQ vessel participation. In the sablefish fishery, the number of vessels dropped by more than 50 percent in the first year of the program. Reduction in the sablefish fleet has occurred slowly since then, with fleet size remaining more than one-third of the pre-IFQ fleet size in the fifth season. This decline suggests that the concentration in the fleet has increased efficiency in the fishery, reducing overcapitalization from the pre-IFQ fishery. The decline in number of vessels is particularly notable, given the broadly inclusive method of the initial allocation. Despite the issuance of QS to all fishers who were active in the fisheries at any time during several years, the number of active vessels has declined every year since program implementation (including the program's first year) (Hartley and Fina 2001).

Crew participation also declined. However, there were apparently gains made by crew members who remained in the fishery.

> Although there are no official counts of crewmembers who participate in sablefish and halibut trips, the willingness of QS holders to team with others is thought to reduce the

> number of active crewmembers in these fisheries. With IFQs and the resulting change from a "race for fish," the number of crewmembers on a typical trip is believed to have fallen from a range of 3 to 6 to a range of 2 to 4 (including the skipper) . . . This decline, however, has not necessarily reduced the returns to crewmembers active in the fisheries. It is in fact estimated that payments per individual crewmember have increased under the IFQ program (Hartley and Fina 2001).

Additionally, because of concerns regarding potential exclusions of long-time crew members from the fishery through fleet or quota consolidation, the halibut and sablefish IFQ programs have a condition that allows transfer only to holders of initial allocations or bona fide crew members. However, it is important to note that the restriction to bona fide crew members applies to crew members in any U.S. fishery, not just the halibut and sablefish fisheries. In fact, the number of crew members participating in the halibut fishery has declined sharply:

> Combined with the decrease in the number of active vessels, estimates of the number of active crewmembers in the halibut fishery fell from 10,500 in 1994 to 3,200 in 1999. While the number of crewmembers has declined, if the number of trips per vessel is factored in, total halibut crewmember trips appear to be approximately equal for the two years, at about 15,500 (Hartley and Fina 2001).

Of potential relevance to processors under an IFQ type of system is the fact processors of different scales may be able to do well, whereas under a derby type of fishery, larger operations were necessarily in an advantageous position. As the FAO study notes, however, this reached its logical extreme in the halibut fishery with exceptionally short openings.

> Before the IFQ program, processors wishing to be active in halibut and sablefish markets had to be able to handle large quantities of fish at a time. Fishers needed to bring their catch to processors able to handle it. Since the rush of fish to processors was intense, fishers had little choice of processors. Since processors were in high demand due to the intensity of the processing immediately after the short season, fishers had little leverage for negotiating a price for their catch. This circumstance was a greater concern in the halibut fishery, where almost all of the vessels participating in the opening tried to offload their catch immediately after the 24-hour period (Hartley and Fina 2001).

In the halibut fishery in particular, subsequent to the implementation of IFQs, the halibut market changed in ways that changed the relative advantages of some communities over others. With the longer seasons, it is now possible to get fresh halibut to market for a good part of the year. The logistics of the fresh market favors landings in ports with easy accessibility to multi-modal transportation systems giving, for example, road-connected Homer a potential advantage over more isolated ports than was the case when halibut was by necessity more of a frozen product fishery. The direct applicability of this type of shift for BSAI crab fisheries managed under an alternative with IFQ-like features is less than clear, however, given that the halibut fishery has a very different geographic base, stretching from the Eastern Gulf of Alaska to the Bering Sea. As noted in the main body of this document, and as debated at NPFMC meetings during the alternative formulation process, there is currently no clear consensus of how applicable the effective decline of processor rents in the halibut and sablefish fisheries under the existing IFQ system in those fisheries would be to a crab rationalization context, and therefore the likely measure of consolidation or shifts between communities that would occur due to those circumstances is unclear.

In terms of regional differences, the IFQ experience of the halibut fishery suggests that different circumstances lead to different fleet consolidation outcomes. Table 2.1-2 provides information on the number

of active halibut vessels by year by management area. As shown, in some areas proportionately larger reductions took place than in other areas.

Table 2.1-2 Number of Active Halibut Vessels by Management Area, 1992-1999

Management Area	1992	1993	1994	1995*	1996	1997	1998	1999
Southeast	507	391	488	378	378	326	296	283
West Yakutat	266	196	249	228	218	218	176	162
Central Gulf	588	462	562	326	294	273	241	226
Western Gulf	103	29	19	86	81	79	66	63
Aleutian Islands	27	33	33	53	50	47	26	27
Bering Sea	72	40	31	55	49	41	28	20
Total (unique vessels)	1,123	915	1,139	517	503	504	449	433

* 1995 is the year the IFQ program was initiated.
Note: Cells in columns are not additive because some vessels fish more than one area.
Source: M. Fina, NPFMC

The Alaska Commercial Fisheries Entry Commission (CFEC), in a study on the changes seen under the halibut IFQ program (CFEC 1999), attempted to ascertain changes among different classes of quota holders. The distinction was drawn between (1) Alaska Rural Local, (2) Alaska Urban Local, (3) Alaska Rural Non-local, (3) Alaska Urban Non-local, and (4) Non-resident quota holders. When examined on an area-by-area basis, for each classification of quota holder, quota holdings were up on some areas and down in others. This same study looked at regional differences in halibut delivery patterns. For the Aleutians/Alaska Peninsula/Bering Sea area, for the 5 years before IFQ implementation (1990-1994), the percentage of total deliveries ranged from 12.0 percent in the low year to 16.8 percent in the high year. During the post-implementation years from 1995 through 1998, deliveries ranged from 11.8 percent to 16.1 percent of the total fishery per year with no clear directional trend of change. For the Kodiak Island Borough, annual deliveries in the 1990-1994 period ranged from 21.2 percent to 26.0 percent of total fishery deliveries, while in the post-implementation 1995 through 1998 period, the annual figures ranged between 17.5 and 23.0 percent. As in the Aleutians/Alaska Peninsula/Bering Sea area, there has not been an unidirectional trend each year post-IFQ implementation in the Kodiak Island Borough, but for both areas 1998 (the most recent year covered by the study) was the lowest percentage delivery year of the reported 1990-1998 period.

Co-op Experience

There are a number of the communities likely to experience social impacts under a BSAI crab rationalization alternative that also have experience with a co-op type of rationalization approach in the form of the pollock fishery co-ops that were institutionalized under the auspices of the AFA. As with the halibut and sablefish IFQs, there are limits to the direct applicability of the pollock co-op experience to the potential crab co-op experience that would be a component of at least two of the alternatives. The factors that limit direct comparison include:

- The pollock fishery is a much more homogenous fishery, given that it focuses on a single species.
- The pollock seasons are longer and more flexible than individual crab seasons, simply given the biology of the species.

- There are many fewer vessels, processors, and communities involved in the pollock fishery than in the crab fisheries, and the increased complexity of the crab fisheries makes outcomes inherently less predictable.

- While data are not immediately available to make definitive quantitative statements, there is also an apparent greater proportion of vertical integration among participants in the pollock fishery than in the crab fishery. This could have broad implications for different types of outcomes in the two different co-op systems, influencing such diverse factors as relative leverage in price negotiations and decision making regarding consolidation.

- Pollock co-ops are plant specific for the shore processing sector, which makes them effectively community specific in terms of social impacts. Under the proposed BSAI crab co-ops, company level rather than plant level co-ops are contemplated. This means that shifts of landings and processing effort between communities could occur in a way (or to a significant degree) that they cannot under the pollock co-ops.

- The co-op systems being considered for crab under the rationalization alternatives are an integral part of a three-pie approach. There is no parallel for that system under the current pollock co-op system.

Given these caveats, however, there are aspects of the impacts seen under the pollock co-ops that may be used to anticipate social impacts under BSAI crab co-ops. In overview:

- Social or community level impacts of the co-ops and related fishery changes differ widely by community but have been generally positive. (One exception may be Sand Point, Alaska, as the plant level co-op system tended to effectively shift pollock away from the community.)

- Pollock co-op effects have been generally positive on an industry or sector basis, as was anticipated when the program was designed. There is some variability between sectors in this regard, with the gains seen in the pollock mothership sector perhaps not as large as those seen in other sectors.

- The AFA itself (rather than co-ops *per se*) has resulted in ownership changes within different sectors, and this has led to some shifts in ownership between communities and regions.

- A common observation among fishery participants is that pollock co-ops have had the beneficial impact of helping to mitigate negative impacts associated with the impacts of Steller sea lion-related protection measures, but this is difficult to quantify.

- The slowing of the race for fish, and the increased economic efficiency of the fishery have had impacts on fishery support service sector businesses. The co-op fishery slow-down may be related to a downturn in fishing support sectors in some communities, but this downturn is also part of (1) other fishery dynamics; (2) "rationalization" of the larger economies of the relevant communities; and (3) less sharp "peaks and valleys" in fishing seasons.

- The slowing of the race for fish and better utilization of the resource has long-term benefits for the fishery and thus the communities engaged in or dependent upon the fishery.

There are significant limitations regarding the data available for pollock co-op analysis, and this also serves to limit the conclusions regarding social impacts that may then, in turn, be generalized to anticipate potential impacts related to BSAI crab co-ops.

- A general level caveat is that the post-AFA co-op formation data that are available only cover a very short period. There has been only 1 full year under the onshore co-op system, and only 2 years under the offshore co-op system that are documented. This makes interpretations of changes apparently related to co-ops problematic, due to normally occurring year-to-year changes in the fishery as well as the fact that fishery participants are still working out strategies, adaptations, and responses to AFA and co-op-influenced fishery conditions.

- It is difficult to isolate the impacts of pollock co-ops in a dynamic environment. Other changes occurring at the same time in the same fishery complicate the picture, with the most notable of these changes associated with the ongoing Steller sea lion conservation-related management measures, and the shift of quota from offshore to onshore sectors.

- Change is still occurring as communities and local economic sectors are still in the process of adapting to the post-co-op formation environment.

As is anticipated with social impacts that may result from BSAI crab co-ops, pollock co-op impacts varied a great deal from community to community. Where local level detail may be generalized for applicability to BSAI crab co-op impact analysis, pollock co-op and AFA-specific impacts are discussed in some detail in the individual community profiles.

Co-occurring Crab Fishing Capacity Reduction Program

At the same time the NMFS is analyzing various alternative management approaches for the BSAI crab fisheries, a "Fishing Capacity Reduction Program for King and Tanner Crab Fisheries in the Bering Sea/Aleutian Islands" (also known as the "buyback" program) is working its way through the regulatory and management process. It is anticipated that this program could be completed in a matter of months, but much depends on a review, acceptance, and implementation process that is not entirely predictable.

Whatever its final form, the buyback program will have its own set of social impacts as well as contribute to impacts that are interactive or synergistic in nature as a result of being combined with impacts from the specific management alternatives. An important distinction between the earlier implemented halibut and sablefish IFQ program and the proposed BSAI crab rationalization alternatives is that the fleet reductions that have occurred in the halibut and sablefish fisheries under that rationalization program were the result of decision making based on economic forces or incentives inherent in the rationalization program itself. With the crab rationalization alternatives, the fleet reduction in the short and/or medium term will result from a combination of factors resulting from a specific buyback program unlike any seen in the halibut and sablefish fisheries as well as the rationalization context itself.

In some ways, this situation is similar to the co-op oriented rationalization that took place in the Bering Sea pollock fishery under the AFA. In that fishery, there was a significant directed reduction in the offshore catcher-processor fleet at the inception of the program. No similar reduction took place among other harvesting or processing sectors, however, and subsequent consolidation among harvesters has been minimal during the 2 years the onshore-based co-ops have been operating. A further distinction is that at the time of the capacity reduction in the pollock fishery there was also a simultaneous redistribution of QS between sectors (the inshore/offshore split). Both the capital reduction and the quota shift have complicated the analysis of the social impacts of the co-ops themselves. A further caveat for applying this experience as an analogue for potential impacts in the crab fishery is that the capital reduction in the offshore fleet under AFA conditions was under a very different set of circumstances than that proposed under the buyback program in the crab fishery, with its market/bid-driven aspects and referendum features.

One of the challenges of trying to assess the likely social impacts of the BSAI crab rationalization is the fact that the size and timing of the reduction under the buyback program is unknown at this point. In other words, the "existing conditions" for the fleet are about to change in ways that are not yet predictable, other than the fact that the fleet will be reduced by some amount in the not-too-distant future. Current scenarios under the buyback program contemplate reductions of 30 to 90 vessels.

In terms of impacts likely to result from the crab vessel buyback program itself, NMFS is in the process of preparing an EA/RIR/IRFA (NMFS 2002) that outlines anticipated impacts. As contemplated, the "program would mostly produce socio-economic impacts upon the human environment. . . This proposed rule would not alter how the BSAI crab fisheries are managed. Only the number of participants may decrease." The document notes that "the fishermen remaining in the BSAI crab fisheries after the buyback would benefit. The licence holders whose bids [for buyback] were accepted would also benefit." Additional individuals and entities that would benefit from the program would be those who hold loans on marginally performing vessels that will either exit the fishery or will have a significant chance of improved performance , and those seeking new loans, and there will be higher collateral value and less potential for loss (NMFS 2002).

The buyback program itself would not, however, change the nature of the fishery, and, while overcapitalization difficulties may be mitigated to some degree, numerous other problematic aspects of a non-rationalized fishery would remain.

> The BSAI crab fisheries currently operate where derby style rules reward those fishermen who are quickest to catch crab. This race to fish would not significantly change with the implementation of this program. Likewise, safety would most likely not be drastically compromised or improved. Although there would likely be fewer vessels harvesting the catch, each would probably be spending more time at sea (NMFS 2002).

In terms of distributional impacts between communities, the NMFS preliminary analysis draws the following conclusion about Seattle:

> . . . Seattle is home port to half of the catcher vessels and catcher-processor vessels and would be impacted more than any other community by this program. The Seattle economy is extremely diversified though, and not dependent upon the fishing industry. . . Under a 60 vessel buyback scenario, the mid-point of the studied range, it appears Seattle would lose 30 vessels. This compares to an overall fleet size in excess of 700 commercial fishing vessels and represents a reduction of approximately four percent (NMFS 2002).

Presumably, demand for support services would increase for remaining vessels, and those services are provided primarily out of Seattle. Additionally, while the processing sector may see some shift of landings between Alaska communities, this would not be likely to significantly impact Seattle-based processing owners that together account for a great deal of the market share of the BSAI processing sector as a whole. In terms of the Alaska communities, the preliminary NMFS analysis contemplates that:

> Overall, the economic impact to communities where BSAI crab are landed and processed would be marginal because the GHLs would not be altered with the implementation of this proposed rule. The smaller communities . . . would most likely see very little change since the total landings of crab would remain at current levels. Some beneficial impacts may occur since this program would provide up to $100 million to successful bidders . . . Crab processors should see little difference because this analysis assumes that the same amount of crab would be available regardless of the implementation of this program (NMFS 2002).

Presumably, some of the monies received by the successful bidders would be reinvested in the communities that had served as home ports for the removed vessels, although there is no way to anticipate differences in the patterns of distribution between communities or among the different sectors that might benefit from such reinvestment. As for crew, the preliminary NMFS analysis draws the conclusion that under the buyback program "Vessel crew may be marginally impacted. Crew generally work 2 months per year at most, supplementing their income with other activities" (NMFS 2002). This preliminary conclusion would appear overgeneralized, given that for some vessels and crew, crab is the central and far-and-away the most important fishery of the year in terms of income, despite the relatively short seasons. For crew on vessels that are bought out, replacing lost crab income will likely prove to be difficult. Impacts on communities from lost crew income would depend on the ultimate structure of the buyback program and the distribution of the vessels bought out.

The crab buyback program does have the potential to influence other fisheries, because not just crab licenses would be removed under the program.

> Other fisheries will likely also benefit from this program since any non-crab species reduction permits must also be surrendered. For example, many of the non-interim LLP crab license holders also have groundfish LLP licenses. If they become successful bidders, they must relinquish all fishing licenses and permits. The reduced amount of license holders would benefit those remaining participants and the fishery itself (NMFS 2002).

Other Considerations

There are a number of other considerations that fall into the category of potential social impacts associated with the crab rationalization alternatives that do not necessarily lend themselves for inclusion in a community profile-based discussion. These considerations and associated issues may be summarized as follows:

- **Skipper and crew issues.** As discussed in various sections in the main body of this document, the rationalization alternatives have the potential to change the relationships between vessel owners, skippers, and crew. In general, rationalization approaches are expected to reduce overall skipper and crew employment. Further, there is concern on the part of skippers and crew that the nature of their compensation would change. Traditionally, skipper and crew compensation has been based on a share system that distributed both risk and reward in a context of uncertainty of success in any particular season. With rationalization, such uncertainty may be largely reduced if not eliminated and, as a result, there are concerns that crew shares would similarly either be reduced or eliminated (in favor of a wage system). Beyond loss of employment and reduction of compensation, there are also concerns that rationalization will create a fishery where it will not be practical for the typical individual to work their way up from the deck to vessel ownership due to increased costs of quota purchase on top of vessel acquisition (although some argue just the opposite may be true - that incremental acquisition of quota share may, in fact, represent a practical path to operation ownership). These issues are discussed elsewhere in the main body of the document and will not be recapitulated here, but it is important to note that they also have social impact dimensions. Similarly, as also discussed in the main body of the document, there is concern that with rationalization the crab fleet may come to be more dominated by "absentee" owners (as opposed to owner/operators who also function as the skipper). While this was a large concern with the rationalization of the halibut fleet under that IFQ program, this concern is not as pervasive in the crab fishery, due to baseline conditions that include a significant portion of the fleet already having absentee owners through multiple vessel ownership or individuals who have otherwise taken a less active role in running their vessels over time. Nevertheless, all things being equal, rationalization can be expected to foster or amplify a trend of increasing absentee ownership. If an approach including "owner on board"

provisions is adopted, then the existing trend in the pattern of ownership may change due to multi-vessel owners having to divest themselves of vessels as would owners who no longer wish to take an active role in fishing operations (assuming all current ownership is not protected by grandfathering provisions).

- **Processing worker employment**. As noted in the following community discussions, the number of processing workers specifically associated with crab operations varies widely from entity to entity, and from season to season. With rationalization in the pollock fishery under AFA co-op conditions, shore-based processing facilities have been able to more efficiently plan their workforce needs and, at least for the lower volume crab seasons that overlap with groundfish processing, have been able to incorporate crab processing in normal operations by adjusting product mix or timing in groundfish without having to bring in additional crab-dedicated crew. Under the proposed rationalization alternatives, plants will be all the more able to efficiently plan workforce needs and, as a result, overall employment may drop, although remaining positions are likely to last longer and result in higher overall compensation per position. Specifically how much processing employment would change is unknown at this point. In terms of social or community impacts, the effect of a reduction in overall processing employment would vary from community to community based on the nature of the local workforce. For example, as discussed in the relevant community profiles, processing employment in Kodiak draws more heavily from the local labor pool than is the case in Unalaska. In some remote communities, virtually no processing jobs are filled from the local labor pool. A reduction in processing employment would be less directly felt in communities with a higher proportion of workers from outside the community than in communities with a lower proportion. Indirect impacts (such as retail business generated as a result of having workers present in the community) would, of course, still result from a decline in employment.

- **Changes in harvester and processor relationships.** As discussed at length in a number of sections of the main body of this document, the different components of the rationalization alternatives have the potential to change the economic and structural relationships between harvesting and processing entities. The degree to which these relationships would change is the subject of considerable debate. How the relative advantage gain of one sector over another would result in social impacts, in particular communities, and the specific nature of those impacts, is exceptionally difficult to forecast given the lack of consensus among economic analysts as to the basic or direct economic outcomes of such potential shifts. Despite this lack of clarity, it is important to note that on the community level processing and harvesting entities are not evenly distributed, nor does ownership across the different sectors share a common geography. Some communities (such as Unalaska and Kodiak) have a locally based fleet, locally based processors, and local support service businesses, so it could be argued that (at least on the community level) losses in one area would be offset by gains in another (although this is complicated by the relative local dominance of participation in one sector over another, e.g., Kodiak participates in these fisheries predominantly through its fleet, while Unalaska does so predominately through its processors). Other communities, however, have fewer sectors present, so relative losses on the part of one sector would not necessarily be made up (on the community level) by relative gains on the part of another sector. Further, even for communities with multiple sectors present, the pattern of local versus distant ownership may vary between sectors, such that gains and losses are not a zero-sum situation on the local level in any event (keeping in mind, however, that other benefits, such as fish tax-derived municipal revenues, depend on the location of activity, and not the location of ownership). Beyond the economics involved, individuals and groups hold ideas about (and associated values regarding) the relationship between harvesters and processors, and if it is perceived that a rationalization approach would seemingly extend effective control of one sector over another, these ideas (and values) quickly surface in interviews. For example, it is apparent that whether or not harvesters are "independent" of processors is not a neutral

issue for a number of individuals. These individuals view crab fishermen as an example (or an icon) of one version of a desired (or even idealized) Alaska lifestyle predicated on becoming a success through individual initiative, hard work, and taking advantage of the opportunities offered by Alaska's natural resources. For individuals holding these views, it is in some sense "wrong" to have harvesting become a corporate undertaking that would be part of a vertically integrated entity, regardless of the economic efficiencies involved. Some individuals interviewed expressed concerns that too large of a shift in economic power toward processors could result in "company town" conditions in Alaska coastal communities similar to those seen in the salmon fishery in Territorial days, while others interviewed discounted this possibility. Without clear results from economic modeling, it is difficult to judge the accuracy of the assumptions that form the basis of these concerns, but for the purposes of the social impact assessment, it is important to note that such concerns are held by individuals and groups in the communities engaged in the fishery.

- **Community preclusion issues.** To the degree that the crab fishery rationalization alternatives predicate continuing engagement in the fishery on an established history of participation in the fishery (i.e., they are inclusive of those entities participating during a qualifying period), they are also exclusive of those entities who did not participate during that period (at least in terms of initial allocations). While in theory potential new entrants to the fishery could obtain access in the future through the purchase and transfer of quota, in practical terms there are concerns over the ability of new entities to do so. This concern extends to processing operations under the "three-pie" alternative for communities that are not currently participating in landings and processing of crab (or, more precisely, communities where locally based processors did not qualify for quota or that do not have locally based processors), but desire to do so in the future. For example, the APICDA CDQ group has noted that although the communities of False Pass and Atka have never processed crab, both communities have recently seen significant investment in shoreside processing operations, and both are targeted for harbor improvement projects. APICDA has expressed concern that allocation of processing quota (or its functional equivalent) could effectively preclude these communities from ever having crab processing as a viable part of the local economic base. (APICDA has also expressed similar concerns about St. George, although that community does have some historical link to processing, albeit through floating processors rather than through shore-based facilities.) Concerns have also been expressed regarding the ability of Adak, recently converted to a civilian community following closure of military facilities there, to have BSAI crab as a viable part of its commercial fisheries economic base unless some community-specific accommodations are made in the rationalization alternatives. Clearly, these issues cannot be addressed through an analysis of the current community participation in the fisheries or potential redistribution across communities within sectors and entities. This potential differential fluidity of movement and access to future entrance to the fishery within harvester and especially processor sectors is, however, a social impact concern shared by a number of communities.

- **Community divisiveness.** While it is not possible to quantify this type of social impact, the varying opinions on, and the public debate of, proposed crab rationalization approaches proved to be a divisive issue in at least some communities during the NPFMC alternative formulation process. This situation is, of course, not unique to the crab rationalization issue among the various fishery management issues that have been seen in the past few years. For example, the pollock fishery inshore/offshore allocation decision-making process was exceptionally contentious. While perhaps not having as high a profile as the inshore/offshore debates, crab rationalization is a subject of passionate debate and strongly held feelings and is to a degree divisive between communities as well as within some communities. Again, this is not a type of impact that can be quantified, but is nevertheless a type of social impact that is apparent in the relevant communities.

Summary

For a variety of reasons, including historical circumstances, the nature and intensity of involvement with the fishery, and varying socioeconomic foundations, different communities would likely experience quite different social impacts as a result of adoption of the individual rationalization management alternatives for the BSAI crab fishery. Some types of impacts may be anticipated based on the recent experiences of relevant communities with other fishery rationalization programs, but there are clear limits as to similarities between the circumstances of previous programs and the proposed BSAI crab rationalization alternatives.

The following subsections examine the communities of Unalaska/Dutch Harbor, Akutan, King Cove, Sand Point, Adak, St. Paul, St. George, and Kodiak. Each of these community profiles provides information on community structure, history of engagement with the fishery, and contemporary engagement with and dependence upon the fishery. The level of detail presented for any particular community varies roughly by the degree of complexity of the community's ties to the fishery.

2.2 UNALASKA/DUTCH HARBOR

Unalaska is located approximately 800 miles southwest of Anchorage and 1,700 miles northwest of Seattle. Unalaska is the 11th largest city in Alaska, with a reported year-round population of just over 4,000. Dutch Harbor is the official name of the city's port and is also often applied to the portion of the City of Unalaska located on Amaknak Island, which is connected by bridge to the rest of the community on Unalaska Island. The geographic feature of Dutch Harbor itself, along with Amaknak Island, is fully contained within the municipal boundaries of the city of Unalaska, which encompasses 115.8 square miles of land and 98.6 square miles of water. Not part of an organized borough, Unalaska falls within the Aleutians West Census Area.

The Unalaska region of the Aleutians experiences a cool, wet, and windy maritime climate. Typical winter temperatures hover around freezing with January temperatures ranging from 25 to 35°F. Typical summertime temperatures range from 43 to 53°F. Average annual precipitation is 57.7 inches. Wind, light rain, and fog are common in the summer, but the wettest conditions generally occur October through December. Moderate to high winds occur throughout the year. The mean wind speed is 17 miles per hour (mph) with a prevailing wind direction of south-southeast. High winds can occur during the winter and have been recorded up to 172 mph (12/26/1988).

Unalaska is in a unique position with respect to the BSAI crab fishery. It is the site of both the most intense direct and indirect fishery economic sector activity. More BSAI crab and groundfish are processed in Unalaska than in any other port, and the support service sector is developed to a greater degree in Unalaska than any other community on the Bering Sea. As a result, Unalaska is a community whose economy is strongly tied to Bering Sea commercial fisheries in general, and the crab fishery in particular. Incorporated as a First Class City in 1942, Unalaska has been variously described as a growing, developing, and maturing community. Whatever descriptor is chosen, during the span of years since the development of the crab fishery, Unalaska has seen a great deal of community development. The changes that have accompanied this development are both obvious and subtle.

Community Demographics

Unalaska is a demographically complex community. Prehistorically and historically a traditional Aleut village, contemporary Unalaska has a diverse population that saw a great deal of growth in the last quarter of the 20th century. This growth and diversification was directly attributable to the commercial fishing industry.

Total Population

It has always been difficult to ascertain total population figures for Unalaska or, to state it more accurately, it is difficult to interpret and compare time series figures given for the population of Unalaska. Over the years, Unalaska has been a "less than permanent" home to many individuals whose length of stay in the community has varied. Some individuals may stay in Unalaska only a fishing season or two; others may stay for many years before moving on. These individuals have been counted in different ways, or not counted at all, in a number of censuses. Caution must therefore be used in interpreting total population figures from various sources.[11] Table 2.2-1 provides census figures for each decade from 1900 through 2000. As shown, the population only exceeded 400 in one census year (1900) and did not surpass 300 in any census year from the turn of the century up until 1980 (while noting that these data do not take into account the thousands of military personnel stationed in and around the community during World War II when Unalaska was a significant base for both Army and Navy forces). The growth seen from 1980 onward can be directly traced to the development of the contemporary commercial fishery processing and support activity that has its roots in the Bering Sea crab fishery and subsequently diversified into other fisheries in general and into the groundfish fisheries in particular.

Table 2.2-1 Unalaska Population by Decade, 1890-2000

Year	Population
1890	317
1900	428
1910	281
1920	299
1930	226
1940	298
1950	173
1960	218
1970	178*
1980	1,322
1990	3,089
2000	4,178

*Note: Other sources put the 1970 census figure at 342 residents.
Source: Historic data from Alaska Department of Community and Economic Development, 2000 data from U.S. Bureau of the Census

[11] As an example, one can find different counts by the City of Unalaska, the Alaska Department of Labor, the Alaska Department of Community and Regional Affairs (more recently the Department of Community and Economic Development), and the U.S. Census for various recent years. While one might assume that the U.S. Bureau of the Census data would be more rigorous than other efforts, it appears that this may not be the case at least for some years. Concerning the 1970 census, for example, a community leader considered a solid source has written that census "was done by the census taker from memory, sitting at home, and it was not accurate to any degree" (Impact Assessment 1987:64). Some sources list the 1970 census population as 342, while other sources list it as 178. Bureau of the Census correspondence from the period (Fay 1972) confirms the official figure as 178, but questions remain regarding whether the census did or did not include short-term residents or transient workers who were present at the time. In 1972, the Alaska Department of Labor apparently tried unsuccessfully to "correct" the census number to a total count of 336 (Fay 1972).

Table 2.2-2 provides local population counts on an annual basis for the years 1990 through 2001. As shown, the annual growth seen in the early 1990s peaked in 1993. While there has been some downward fluctuation since, the population was virtually the same in 2001 as it was 8 years earlier in 1993.

Table 2.2-2 Unalaska Annual Population, 1990-2001

Year*	Population
1990	3,089
1991	3,450
1992	3,825
1993	4,317
1994	4,317
1995	4,083
1996	4,087
1997	4,251
1998	4,285
1999	4,178
2000	4,283
2001	4,283

* Counts are taken/calculated in July of each year and are utilized as the official community count for the following fiscal year (e.g., the 1990 count was taken in July 1990 and appears as the community population for FY 1991 in City documents).

Source: City of Unalaska spreadsheet, supplied by Unalaska City School District, December 2001

While the total population of Unalaska has grown considerably from the early fishery boom years, the contemporary community maintains a relatively high transient population. This transient population includes workers at shore processing plants, although this particular population segment is notably less transient as the nature of the business of the shore plants has changed. Once characterized by rapid turnover during the king crab processing boom in the late 1970s, the local pattern evolved to more-or-less year-round processing during the early years of full-scale pollock processing. The current pattern has marked peaks and valleys coinciding primarily with the pollock and, to a lesser extent, crab seasons, along with maintenance of a "core crew" of year-round individuals who process lower volume species that are harvested at other times of the year in addition to maintaining the plant.

In addition to the resident population, there are also a number of individuals who may be thought of as a "floating population" associated with the community. These individuals are from catcher vessels, catcher processors, and floating processors that work the Bering Sea and Aleutian Islands area and call on Unalaska for resupply or constitute a "service population" for Unalaska in one form or another (e.g., potential patients for emergency medical services care). Table 2.2-3 provides an estimate of the direct fisheries harvesting and processing component of this floating population for 2000. Although these estimated 5,400 individuals are not true residents of Unalaska, this "floating population" does have an impact on the community. They are associated with business and revenue generated in and for the city, and with services required of the city. There is also a potentially large number of other infrequent or "floating" visitors associated with the port. Some of these are more or less directly fishery related, such as the crews on domestic and international cargo vessels that have company facilities in the community, freighters affiliated with specific seafood companies,

and independent trampers. (While there are no current estimates available, in 1990 this component of a floating population was estimated at 8,750 individuals, derived from an assumed 350 vessels with an average crew size of 25 [Professional Growth Systems, Inc. 1990:12]. If this estimate is still valid, that would yield a floating population of fishery- plus fishery transport-related individuals of 14,157.) Additionally, there are various other transient vessels that may or may not be directly affiliated with the fishery, such as barges, cruise ships, and ferries, that call on the community of Unalaska and the Port of Dutch Harbor and add to an effective service population or floating population for the community. While the calculation of such a population is less than straightforward, whatever the actual numbers are for any given season or year, it is the case that Unalaska services a floating population that is very large in relation to its resident population base, and a great number of these individuals are directly or indirectly associated with commercial fisheries.

Table 2.2-3 Estimates of Direct Fisheries Related "Floating Population" of the Community of Unalaska, 2000

Vessel Type	Estimated Number of Vessels	Average Crew Size	Floating Population
Trawlers			
Catcher Vessels	123	4.5	554
Catcher/Processors	38	65	2,470
Floating Processors Only	2	100	200
Longline			
Catcher Vessels	18	5	90
Catcher/Processors	38	16	608
Crab/Pot			
Catcher Vessels	254	5.5	1,397
Catcher/Processors	8	11	88
Total Direct Fisheries Related Floating Population			5,407

Source: NPFMC Sector Profiles Update 2001; Northern Economics; Mark Fina (NPFMC)

The characterization of Unalaska's "non-transient" population has its own difficulties, as the nature of the community has changed over the years. Discussion and analytical categorization of the less transient portions of the Unalaska population differ in various publications on the community. "Permanent" residents of the community have been described as those individuals for whom Unalaska is their community of orientation, independent of their employment status. "Semi-permanent" or "long-term transient" residents are those individuals for whom Unalaska is now their community of residence, but for whom residency decisions are based virtually exclusively on employment criteria. In other words, a "permanent" resident, is an individual who considers Unalaska "home" and is highly unlikely to move from the community due to termination of a particular job. These individuals tend to remain in the community and seek other employment if a specific job ends, and they also typically remain in the community after their retirement from the labor force. A "semi-permanent" or "long-term transient" resident, on the other hand, is an individual who typically has moved to Unalaska for a particular employment opportunity and is highly likely to leave the community if that specific employment opportunity is terminated for any reason. These individuals may indeed remain in the community for a number of years, but their residency decision-making process is predicated on Unalaska being first and foremost a worksite. Obviously, the categories "permanent" and "semi-permanent" or "long-term transient" resident are not precise terms, nor do they necessarily correspond to administrative/regulatory decisions about "official" residency (e.g., whether or not one is classified as an "Alaska resident" for

employment statistical reporting or taxation purposes) nor do they correspond to U.S. Census count methodology,[12] but they are analytically useful where they conform to specific orientations toward the community that serve to shape community politics, development objectives, community perception, etc. While distinctions are often drawn between the processing-associated population in the community and other residents of the community, several persons interviewed were quick to point out that a number of those in management positions at the processing plants are active in the community in leadership roles, and that a number of other leaders in the community who currently hold positions in non-processing economic sectors originally came to the community for processing-related employment and then subsequently transitioned to other employment. This type of transition does not appear to occur frequently, if at all, among non-management workers within the processing sector.

Ethnicity

Unalaska may be described as a plural or complex community in terms of the ethnic composition of its population. Although Unalaska was traditionally an Aleut community, the ethnic composition has changed with people moving into the community on both a short-term and long-term basis. Not surprisingly, in the latter half of this century, population fluctuations have coincided with periods of resource exploitation and scarcity.[13] For example, the economic and demographic expansion associated with the king crab boom in the late 1970s and early 1980s brought many non-Aleuts to Unalaska, including Euro-Americans, Filipinos, Vietnamese, Koreans, and Hispanics. The Euro-American population shows a distinct change over the years, comprising around 30 percent of the population in 1970, over 60 percent in 1980 and 1990, and then back to 44 percent in 2000. The growth of Asian/Pacific Islander population (over 30 percent by 2000) is closely associated with the increasingly residential nature of the seafood processing sector workforce. The ethnic composition of Unalaska's population for the census years 1970, 1980, 1990, and 2000 appears in Table 2.2-4.

[12] The technical classification of residency has been a contentious issue in recent years specifically with respect to the fishing industry-related workforce. In terms of U.S. Bureau of the Census methodology, the first U.S. decennial census in 1790 established the concept of "usual residence" as the main principle in determining where people were to be counted. This concept has been followed in all subsequent censuses. Usual residence has been defined as the place where the person lives and sleeps most of the time and is not necessarily the same as the person's voting or legal residence. Also, noncitizens who are living in the United States are included, regardless of their immigration status. The State of Alaska uses a specific set of criteria for determining residents of the state (i.e., those who qualify for Permanent Fund dividends). According to the state publication *Nonresidents Working in Alaska* (Alaska Department of Labor and Workforce Development 2001), using these criteria, the highest concentration of non-Alaska resident workers are found in the southwest region of Alaska and were primarily engaged in seafood processing. According to this document, 70.9 percent of the workers in this sector in Alaska were not state residents. Of the top private sector employers of non-state resident workers within the "manufacturing" sector, all five were seafood processing firms with ties to the Alaska Peninsula/Aleutian Islands region, if not Unalaska itself. These firms (in alphabetical order) were Icicle Seafoods, Peter Pan Seafoods, Inc., Trident Seafoods Corporation, UniSea, Inc., and Wards Cove Packing Company, Inc. Of the combined total of 11,006 workers reported for these firms, 8,669 individuals or 78.77 percent of the total number of workers were not classified as Alaska residents. The workforce at the individual firms ranged between 71 and 86 percent non-Alaska resident. The relative importance of state resident classification has been the subject of heated debate during recent NPFMC management decision-making processes (for example, during the series of Inshore/Offshore decisions), but in practical terms for the purposes of a social impact assessment, the nature of interaction and relationship between these workers and their worksite community appears to depend more on living quarters configuration (i.e., industrial enclave style or more integrated with the rest of the community), work schedules, and individual decisions regarding the allocation of personal time, among other factors, than it does on formal state residency status for originally non-local workers - whether they be from elsewhere in Alaska or from another state.

[13] The most dramatic population shift of this century, however, was brought about by World War II. The story of the War, and the implications for the Aleut population of Unalaska and the other Aleut communities of Unalaska Island, is too complex and profound for treatment in this limited community profile. It may be fairly stated, however, that the events associated with World War II, including the Aleut evacuation and the consolidation of the outlying villages, forever changed the community and Aleut sociocultural structure.

Table 2.2-4 Ethnic Composition of Unalaska's Population: 1970, 1980, 1990, and 2000

Race/Ethnicity	1970		1980		1990		2000	
	N	%	N	%	N	%	N	%
White	56	31.0%	848	64.1%	1,917	62.1%	1,893	44.2%
African American	0	0.0%	19	1.5%	63	2.0%	157	3.7%
Native American/Alaskan	113	63.4%	200	15.1%	259	8.4%	330	7.7%
Aleut	107	60.1%	-	-	223	7.2%	-	-
Eskimo	5	2.8%	-	-	5	0.2%	-	-
American Indian	1	0.5%	-	-	31	1.0%	-	-
Asian/Pacific Islander*	-	-	-	-	593	19.2%	1,336	31.2%
Other**	9	5.6%	255	19.3%	257	8.3%	567	13.2%
Total	178	100%	1,322	100%	3,089	100%	4,283	100%
Hispanic***	NA	NA	NA	NA	394	12.7%	551	12.9%

* In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 24) and Asian (pop 1,312)
** In the 2000 census, this category was Some Other Race (pop 399) and two or more races (pop 168).
*** "Hispanic" is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).
Source: 1970 data, University of Alaska, 1973; 1980, 1990, and 2000 data, U.S. Bureau of Census

Apart from the World War II years, prior to the growth of the current commercial fisheries-based economy that traces its present configuration back to 1970s, Unalaska was traditionally an Aleut community. With the growth of the non-Aleut population, Aleut representation in the political and other public social arenas declined significantly. For example, in the early 1970s, Aleut individuals were in the majority on the city council; by the early 1980s, only one city council person was Aleut (IAI 1987:65). If one looks at Aleuts (or Alaska Natives) as a percentage of the total population, the change over the period of 1970-1990 is striking.

In 1970, Aleut individuals made up slightly over 60 percent of the total community population (and Alaska Natives accounted for a total of 63 percent of the population). In 1980, Alaska Natives, including Aleuts, accounted for 15 percent of the population; by 1990, Aleuts comprised only 7 percent of the total community population (with Alaska Natives as a whole accounting for 8 percent of the population). Overall representation was similar in 2000. This population shift is largely attributable to fisheries and fisheries-related economic development and associated immigration. The fact that there is a "core" Aleut population of the community with a historical continuity to the past also has implications for contemporary fishery management issues. These include the activities of the Unalaska Native Fisherman's Association and active local involvement in the regional CDQ program. While neither of these undertakings exclude non-Aleuts, Aleut individuals are disproportionately actively involved (relative to their overall representation in the community population).

Another reflection of the diversity of the community and the distribution of different subpopulations within the community may be seen in the population differentiation by housing type. Group housing in the community is largely associated with the seafood processing workforce. As shown in Table 2.2-5, 52 percent of the population lived in group housing in 1990 and 51 percent of the population did so in 2000. While comparable 2000 data are not yet available, Table 2.2-6 provides 1990 census information on group housing and ethnicity for Unalaska. Also as shown, the total minority population proportion was substantially higher in group quarters (49 percent) than in non-group quarters (31 percent).

Table 2.2-5 Group Quarters Housing Information, Unalaska, 1990 and 2000

Year	Total Population	Group Quarters Population		Non-Group Quarters Population	
		Number	Percent of Total Population	Number	Percent of Total Population
1990	3,089	1,614	52.25%	1,475	47.75%
2000	4,283	2,192	51.18%	2,091	48.82%

Source: U.S. Bureau of the Census 1990 STF2, Census 2000 Summary File 1

Table 2.2-6 Ethnicity and Group Quarters Housing Information, Unalaska, 1990

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	1,917	62.06%	870	53.90%	1,047	70.98%
Black	63	2.04%	55	3.41%	8	0.54%
American Indian, Eskimo, Aleut	259	8.38%	20	1.24%	239	16.20%
Asian or Pacific Islander	593	19.20%	434	26.89%	159	10.78%
Other race	257	8.32%	235	14.56%	22	1.49%
Total Population	3,089	100.00%	1,614	100.00%	1,475	100.00%
Hispanic origin, any race	394	12.75%	337	20.88%	57	3.86%
Total Minority Population	1,252	40.53%	795	49.26%	457	30.98%
Total Non-Minority Population (White Non-Hispanic)	1,837	59.47%	819	50.74%	1,018	69.02%

Source: U.S. Bureau of the Census 1990 STF2

During recent field interviews for this project and other NPFMC projects, a number of individuals, including local governmental officials and individuals from various private sector enterprises, commented that it appeared to them that there were less people overall in the community in the 2000-2001 period than in the recent past, although there are no hard data available to verify this. Speculation included that with the apparent slowdown in the local support service economy with the AFA-related cessation of the race for fish within the pollock fishery, there has been some population loss among the permanent population (along with the non-appearance of some former seasonal regulars in the community). Again, there is no quantitative information available to check this speculation. Anecdotal evidence cited by interviewees includes less participation in city-sponsored recreational sports (e.g., the basketball league has seen a drop in the number of teams), and an easing of the shortage of housing (discussed below).

Age and Sex

In the recent past, and particularly with the population growth seen in association with the development of the commercial fishing industry, Unalaska's population has had more men than women. Historically, this has been attributed to the importance of the fishing industry in bringing in transient laborers, most of whom were young males. Table 2.2-7 portrays the changes in proportion of males and females in the population for the years 1970, 1980, 1990, and 2000.

Table 2.2-7 Population by Age and Sex, Unalaska: 1970, 1980, 1990, and 2000

Attribute	1970		1980		1990		2000	
	N	%	N	%	N	%	N	%
Male	98	55%	858	65%	2,194	71%	2,830	66%
Female	80	45%	464	35%	895	29%	1,453	34%
Total	178	100%	1,322	100%	3,089	100%	4,283	100%
Median Age	26.3 years		26.8 years		30.3 years		36.5 years	

Source: 1970 data, University of Alaska, 1973; 1980, 1990, and 2000 data, U.S. Bureau of Census

Census data from the period 1970-1990 showed a climb in median age from 26.3 years to 30.3 years and then a further jump to 36.5 years in 2000. This is commonly attributed to the relative size of the workforce in comparison to resident families. That is, there is quite a large proportion of adult residents included in the census counts who are not raising children in the community, thereby raising the median age. On the other hand, what the median age information does not portray is that older age bracket residents (i.e., those individuals typically past their "working years") tend to be under represented in Unalaska compared to the general population, as few non-lifetime residents of the community choose to stay in Unalaska in their retirement years.

School district enrollment figures are presented in Table 2.2-8. This is another indicator of the changing nature of Unalaska's population over the time period portrayed. One can see in the enrollment figures, for example, the enrollment decline that followed the economic decline of the fishing industry in the early 1980s, following the crash of locally important king crab stocks. Enrollments have increased from the late 1980s onward, reflecting two trends, according to school staff. One is the overall growth of the community, and the other is the increase in the number of people who are making Unalaska home for their families. As shown, however, the growth has leveled off recently. As of December 2001, the City was finalizing a significant expansion of the school, including a new elementary school/administrative offices structure on a non-contiguous portion of the campus. The issue of whether to proceed with the expansion during a time when community population was experiencing a plateau if not decline, and a leveling off of student population in particular, was the subject of debate and a highly contested ballot measure in the community, with the decision to proceed with the expansion passing by a handful of votes.

The link between the fisheries and school population can in part be seen through a categorization of the employment, by sector, of parents of Unalaska schoolchildren as ascertained by the Unalaska School District as of January 2000 and shown in Table 2.2-9. As shown, the largest single sector was government/public, but fish processing and fishing support accounted for 36 percent of the total. According to school staff, the assignment of individual employers/entities to these categories (especially the "fishing support" category) is inexact, but gives an indication of the relative strength of ties of the different sectors to the school population. One trend that senior staff did note during interviews was an increase in students for whom English is a second language. According to senior school staff, 47 percent of the 2000-2001 kindergarten class were ESL (English as a second language) students. Also, according to school staff the Unalaska City School District was recently named in a poll as one of the top 100 school districts in the country and placed first in the state in exit exam scores, which has spurred an increase in enrollment of students from smaller villages in the region. For the most part, these are individuals who have chosen to stay with relatives in Unalaska to take advantage of the local educational opportunities, but there is now more opportunity for families to relocate to Unalaska from other regional communities with easing of the local housing shortage.

Table 2.2-8 Unalaska City School District Enrollment, Fiscal Years 1978-2002

Fiscal Year*	School Enrollment
FY 1978	133
FY 1979	140
FY 1980	200
FY 1981	186
FY 1982	191
FY 1983	151
FY 1984	140
FY 1985	140
FY 1986	137
FY 1987	159
FY 1988	159
FY 1989	159
FY 1990	225
FY 1991	256
FY 1992	290
FY 1993	330
FY 1994	359
FY 1995	356
FY 1996	353
FY 1997	373
FY 1998	380
FY 1999	353
FY 2000	352
FY 2001	352
FY 2002	369

* Fiscal year designation notes the calendar year in school year ended (e.g., FY 1978 refers to the 1977-1978 school year, and FY 2002 refers to the 2001-2002 school year).

Source: Spreadsheet supplied by Unalaska City School District, December 2001

Table 2.2-9 Parent Employment by Sector, Unalaska City School District Fiscal Year 2000

Parent Employment Sector	Percentage
Government/Public	28%
Fish Processing	18%
Fishing Support	18%
Retail/Restaurant/Services	17%
Transportation/Freight	16%
Self Employed/Unemployed	3%
Total	100%

Source: Unalaska City School District 2001

Housing Types and Population Segments

Household types in Unalaska vary by population segment, although this has changed in recent years. In the early 1990s, it was a truism that virtually all permanent residents lived in single-family dwellings, whereas short-term workers lived in group housing at worksites. This pattern has changed somewhat over the years with the construction of a number of multi-unit complexes not associated with particular employers. It is still the case, however, that processing workers for the seafood plants tend to live in housing at the worksite and longer-term workers at the shoreplants tend to live in company housing adjacent to worksites. One seafood processor, however, owns multi-family dwellings in what is otherwise primarily a single-family residential area, so its workforce tends to be differently distributed geographically than other workforces. Some residents of the community have drawn the distinction, with respect to processing firms, that one is not fully a resident of the community unless one has a private residence in the community (i.e., that the "test" of "real" residency is tied to whether one lives in company-provided housing). This distinction breaks down, however, when one examines the issue on a detailed level, as a number of companies (and not just seafood firms) provide or subsidize housing for employees in Unalaska both adjacent to and separate from their worksite locations; also, the persons living in such residences may, in fact, stay in the community for considerable lengths of time (outstaying many in "private" residences) and become centrally involved in community life. Still, in various political arenas, one hears claims made for the virtue of particular points of view based on whether individuals own homes and pay property taxes in the community.

The housing market has also changed during the period 1998-2001. Through the mid-1980s and the 1990s, housing was at a premium in the community, with virtually zero vacancy rates and waiting lists for rental opportunities. According to City staff, as of 2000, housing and rental prices had not appreciably dropped, but demand has slackened considerably such that there are no longer waiting lists maintained by some of the larger housing owners. According to the City appraiser and planning staff, home sales are slower than in the past, and there is some concern about declines in value, but those concerns have not been realized yet. This was still the case during 2001 fieldwork. Also according to the City, although rental demand is off, rents have not yet begun to drop in response to decrease in demand. This "softening" of the housing market is directly attributed by most to recent changes in the local fishery, including the slowing of the "race for fish" in the pollock fishery that was made possible by the AFA and the formation of co-ops, among other fishery-related factors.

The most recent housing market survey conducted by the City of Unalaska was completed November 2000 (City of Unalaska Planning Department Spreadsheet, February 2001) and noted that there has been "some curiosity expressed" about how 31 new units in the community will affect the rental market. These units include 16 apartments and 15 single-family dwellings for low-income residents (with the single-family dwellings further restricted to Alaska Native/Native American residents). Until very recently, the impact of the addition of new units to the community housing stock on rental rates would not have arisen as an issue. This same survey found that "while only one participant [in the survey] acknowledged lowering rental rates, several of the others acknowledged changing some of their rental policies, e.g., no last month deposit or renting to the general public if units are not required for employees." According to interview data, some landlords are now including fuel or utilities costs in the rental price, with the owner of the largest stock in the community including utilities. The housing survey also found that the upper range for housing costs had decreased slightly between 1997 and 2000 for apartments, whereas the costs for single-family dwellings increased slightly over this same period.

Another recent change in housing mentioned in interviews is that companies (other than the major seafood processors) are less likely to supply housing for workers than was the case in the past. This is reportedly due to there being more housing available on the market now, such that companies do not feel forced to tie up housing units for the entire year to be able to meet employee housing needs during peak demand periods. While there are no systematic data available to document this common assertion, the City of Unalaska has

discontinued the practice of holding long-term housing leases, which until very recently was a common practice due to the local housing shortage. According to City staff, as of 2001, the City retained just one lease for housing, and this was on a month-to-month basis. At present (2002) there are also rental vacancies in the community and have been for at least a year. One long-term resident noted that the local access television channel now commonly runs postings for rental opportunities, whereas in the recent past virtually all rental opportunities were communicated by word of mouth and openings never had a chance to hit the open market.

Local Economy and Links to the Crab Fishery

In the late 1970s and early 1980s the community prospered significantly from the king crab fishery. The crab boom resulted in a dramatic increase in both fishing boats and processors in town. In the mid-1970s there were from 90 to 100 commercial vessels regularly fishing the Bering Sea. By 1979 the number had jumped to between 250 and 280, an increase so dramatic that it was difficult for skippers to find crew members. The king crab fishery subsequently declined precipitously and fishermen and processors alike have had to diversify their businesses in order to survive. One of the avenues of diversification was the pollock fishery, and this fishery has provided an economic mainstay for the community in subsequent years.

Table 2.2-10 shows the volume and value of fish landed at Unalaska over the period 1977-2001. This span encompasses the high year of the king crab fishery and shows the decline of the fishery thereafter, and the growth of the pollock fishery. Average value per pound is an artificial figure in that it combines a number of different variables, but it is useful for an overall look at how volume and value have varied over the years (particularly as pollock, a relatively high volume, low value per unit species grew in importance as a component of the community processing base). As shown, Unalaska has ranked as the number one U.S. port in volume of landings since 1992 and ranked first in value of landings from 1988 to 1999.[14] In 2000, Unalaska dropped to second in value of landings behind New Bedford, Massachusetts, and remained there in 2001. (In 2001, New Bedford value of landings totaled $150.5 million on a much lower volume [106.9 million pounds] than landed in Unalaska).

The commercial fishery provides a very large component of the employment base in Unalaska. According to the City of Unalaska Comprehensive Annual Financial Report for the fiscal year ending June 30, 2001, "The Unalaska economy is driven by the seafood industry. About half of the Unalaska labor force is employed by the seafood industry, and 90 percent of the workers consider themselves dependent on the seafood industry." According to a telephone survey conducted by the City and included in that same report, the top four employers in the community are seafood industry businesses (Table 2.2-11). The City is the fifth largest employer, and the next two are shipping firms that rely virtually exclusively on the seafood industry. These firms are followed by the school district, which is followed by a fuel and vessel supply firm that relies very heavily on the fishing industry. It is only at the tenth position on the list that one comes to an employer that is not a seafood company, a direct/exclusive support firm for commercial fishing sector firms, or a government entity. Nevertheless, this firm does derive a portion of its business from supplying fishing vessels.

[14] If ports in U.S. territories are included, Unalaska/Dutch Harbor ranks second behind Pago Pago in American Samoa for at least some of these years. As the center of the U.S. flag tuna fishery, value of landings at that port in 1998 (approximately $232 million) more than doubled Unalaska/Dutch Harbor's total for that same year, the last full year for which data are available (NMFS 2001b).

Table 2.2-10 Volume and Value of Fish Landed at Unalaska, 1977-2001

Year	Volume		Value		Average Value ($/lb)*
	Millions of Pounds	US Ranking	Millions of Dollars	US Ranking	
1977	100.5	-	61.4	-	0.61
1978	125.8	-	99.7	-	0.79
1979	136.8	-	92.7	-	0.68
1980	136.5	3	91.3	10	0.67
1981	73.0	5	57.6	11	0.79
1982	47.0	6	47.8	14	1.02
1983	48.9	9	36.4	15	0.74
1984	46.9	20	20.3	13	0.43
1985	106.3	18	21.3	8	0.20
1986	88.3	9	37.2	10	0.42
1987	128.2	4	62.7	8	0.49
1988	337.3	3	100.9	1	0.30
1989	504.3	2	107.4	1	0.21
1990	509.9	2	126.2	1	0.25
1991	731.7	2	130.6	1	0.18
1992	736.0	1	194.0	1	0.26
1993	793.9	1	161.2	1	0.20
1994	699.6	1	224.1	1	0.32
1995	684.6	1	146.2	1	0.21
1996	579.0	1	118.7	1	0.20
1997	587.8	1	122.6	1	0.21
1998	597.1	1	110.0	1	0.18
1999	678.3	1	140.8	1	0.21
2000	699.8	1	124.9	2	0.18
2001	834.5	1	129.4	2	0.15

* Average value derived from volume and value data.
Source: 1977-1979 data from NMFS data as cited in IAI 1991; 1980-1996 data from National Marine Fisheries Service data cited in City of Unalaska FY 97 Annual Report (December 1997); 1997-2000 data via personal communication from NMFS Fisheries Statistics and Economics Division, Silver Spring, MD (accessed through NMFS Website - <http://www.st.nmfs.gov/st1/commercial/landings/lport_hist.html>)

Table 2.2-11 City of Unalaska, Ten Principal Employers, June 30, 2001

Employer	Type of Business
UniSea, Inc.	Seafood, Hotel
Westward Seafoods, Inc.	Seafood
Alyeska Seafood, Inc.	Seafood
Royal Aleutian Seafoods, Inc.	Seafood
City of Unalaska	Local Government, Utilities, Ports
CSX Lines, Inc.	Transportation
American President Lines, Ltd.	Transportation
Unalaska City School	Primary, Secondary Education
Western Pioneer, Inc.	Fuel, Vessel Support
Alaska Commercial Company	Grocery, Retail

Source: City of Unalaska, Comprehensive Annual Financial Report for the Fiscal Year ending June 30, 2001

Beyond employment, fishing and fishing support define a substantial portion of the identity of the community, and fishing-related issues extend into many other areas of community life. An example of the engagement of the community with the direct and fisheries support sectors and vice versa may be seen in the composition of local government decision makers. At the time of fieldwork for this project (December 2001), of the seven city council plus mayor positions, two were held by current in-community processor employees, one was held by an individual with ties to both at-sea processing and support services, and three were held by persons employed in a range of support sector businesses with primary ties to the fishery (hydraulics, fuel, and shipping). Only one council person had no direct ties to the fishery or the primary support sector. At least one individual now in the support sector originally came to the community as a fishery sector employee, and only the individual with no ties to the fishery or its support services has multigenerational family roots in Unalaska.

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

Harvesting

As discussed in previous documents (e.g., the Steller Sea Lion Protection Measures SEIS [NMFS 2001a]), the vast majority of fish landed in Unalaska both in terms of volume and value are landed by vessels from outside of the community. Unalaska is at once both an industrial-scale fishing community and a small boat fleet town. It is home to a greater concentration of processing and catcher vessel activity than any other Alaskan community, but its residential fleet is much smaller than a number of much smaller communities within the same region (e.g., King Cove and Sand Point). The following discussion is divided into small and large vessel subsections.

Small Vessel Fleet

There is at present little direct participation in the BSAI crab fisheries by vessels owned or crewed by local residents, but there is a local small commercial catcher vessel fleet that interacts to some degree with the larger as well as the smaller crab and multi-species processors. A portion of the fleet is represented by the Unalaska Native Fisherman's Association, and according to earlier interview data, in 1998 there were 24 boats in the association, ranging in size from 18-foot skiffs up to a 68-foot commercial vessel. In late 2001, membership was described as fluctuating between 20 and 50 boats, depending on the nature of fisheries

management/political climate. This association is open to Natives and non-Natives alike, but there is a requirement that members must live in the community 8 months per year. This entity, with financial support of the regional CDQ group, represents the interests of Unalaska small boat fishermen before the NPFMC by underwriting travel expenses for local representatives to attend the meetings. During fieldwork in December 2001, the Association's president noted that the organization had never discussed crab rationalization and so did not have an official position regarding the different approaches under consideration. Association representatives did note, however, concerns that if processor quotas were part of the program there could be a danger of returning to a "company town" type of fishery through consolidation that would be like those seen in the salmon fisheries in the 1950s. At the February 2002 NPFMC meetings, a resolution from the Association, dated January 27, 2002, was presented to the NPFMC, urging the NPFMC (and other entities) "to require strong standards for conservation and community health before any new individual quota program or other limited access programs are adopted for our fisheries resources in Alaska" with a feature of the plan to "include eligibility for coastal communities" (Unalaska Native Fisherman's Association 2002).

Local vessels do not participate in the locally important pollock fishery, but they do participate in the local cod, halibut, and crab fisheries on a small scale. A frequently noted problem in developing markets and long-term relationships with the larger processing entities, however, is that the locally based fleet consists of small vessels by Bering Sea standards. In practical terms this means that they are more weather dependent than larger vessels and have a smaller delivery capacity per trip, which makes it difficult for larger plants to accommodate what are by necessity small and sporadic deliveries. There are two smaller processing entities in the community that, in addition to doing custom processing for the larger processors and serving the local charter sportfishing sector, also serve as an important market for the local small boat commercial fleet. Information from interviews conducted for this and other recent projects suggests that very few if any of Unalaska's small vessel owners derive household or individual income exclusively from commercial fishing, and that commercial fishing for small boat owners is generally one part of a (variable) multiple income source strategy of "piecing together a living." In the words of one long-time local vessel owner, "you could do it [support a family off of local commercial fishing] when I was young, but if I had to support a family now, I would have to be a longshoreman."

According to information gained from interviews conducted for this project in December 2001, local small boat participation in BSAI crab fisheries has dropped to near zero due to closures restricting access to crab in waters near the community, with tanner having been closed since 1994 and king crab since the early 1980s. When open, the tanner fishery was effectively an Unalaska Bay fishery for the small boats, but there was some competition from larger vessels that would drop pots on the local grounds on the way out to more distant fishing areas and retrieve them on their return to port. Local small vessel interviewees ranged in their estimate of the number of locally owned small vessels still participating in any BSAI crab fishery as between one and three vessels. At least some local small vessels do participate indirectly in the crab fisheries by selling bait to the larger vessel crab fleet. Reportedly, however, this business has been made much more difficult with the very short crab seasons, and a lengthening of seasons through rationalization would assist this local market for small vessel owners, through longer turnarounds as well as more port calls during an extended season. This would make investment in such enterprises less speculative as well.

Information on local small vessel participation in the groundfish fishery is more readily available than information on the fleet's participation in the BSAI crab fisheries, due to these fisheries being open in recent years and having enough entities that data on the fishery are not confidential for most years. Between 1992 and 2000, as shown in Table 2.2-12, between 3 and 21 Unalaska resident-owned vessels less than 60 feet have had landings in targeted groundfish fisheries in any given year. Also as shown in this same table, the total value of groundfish ex-vessel revenues for the community-based fleet ranged between $40,000 to $250,000 per year during this same time period, for the years that can be disclosed. A couple of trends are apparent in this table. The number of vessels during this era peaked at 21 in 1996 and has declined every year since, with

the 7 vessels fishing in 2000 representing a 67 percent reduction from the 1996 fleet size. Total Unalaska-owned vessel groundfish ex-vessel revenues have declined over this same 1996-2000 period, but not as quickly as the number of vessels themselves, resulting in a 50 percent reduction of annual revenues between 1996 and 2000. This has had the effect of raising the average revenue per vessel within the reduced fleet by 201 percent between 1996 and 2000. Among the groundfish species, Pacific cod plays a dominant role for these vessels. Between 1992 and 2000, Pacific cod accounted for between 71 and 100 percent of value of catch for this fleet in any given year, with an average of 92 percent per year over this span. Over the most recent 4 years, 2000 through 1997, Pacific cod accounted for 89 percent of total value of catch for the Unalaska-owned under 60 feet fleet. There is no state water groundfish fishery in the Bering Sea near the community, so these data all refer exclusively to federal water fisheries. Two to four Unalaska resident-owned vessels 60 feet or greater participated in the targeted groundfish fishery each year for the years 1992-1999, but none did so in 2000.

Table 2.2-12 Vessels <60' Owned by Unalaska Residents with Landings in Groundfish Target Fisheries and Groundfish Ex-vessel Revenue of Unalaska/Dutch Harbor Resident Owned Vessels, 1992-2000

Year	Number of Unalaska-Owned Vessels	Unalaska-Owned Vessels, Groundfish Ex-Vessel Revenue	
		Total (thousands of dollars)	Average per Vessel (dollars)
1992	6	40	$6,700
1993	3	suppressed	suppressed
1994	16	110	$6,900
1995	13	250	$19,200
1996	21	150	$7,100
1997	16	120	$7,500
1998	9	110	$12,200
1999	9	110	$12,200
2000	7	100	$14,300

Note: Includes "ghost vessels"
Source: CFEC/ADFG Fish Tickets, June 2001

Reportedly, the activities of this local small boat groundfish fleet are effectively constrained to the west of Unalaska Bay on the north side of Unalaska Island, due to environmental as well as potential gear conflict factors. According to one local longline fisherman, if fishing is attempted to the east, currents in the major passes, especially when combined with rough weather, make for untenable conditions for small boats. Further, frequent transits of this area by the larger-scale fishing fleet as well as the numerous shipping vessels that call on the Port of Dutch Harbor make gear loss too great of a risk to be conducive to fishing in the area. In contrast, the waters to the west feature less current and more sheltered or protected areas for small boats to ride out rough weather. In general, the open Bering Sea conditions near Unalaska present difficulties for small boat fishermen as little adequate shelter exists outside of Unalaska Bay itself. This is equally applicable to groundfish and crab pursuits.

In terms of the number of participants, the local jig fleet has seen growth and decline in recent years. According to CFEC and Alaska Department of Fish and Game (ADF&G) fish ticket data, three Unalaska/Dutch Harbor jig vessels fished groundfish in 1992, two fished in 1993, and then there was an upsurge in participation with between 13 and 18 vessels reporting per year from 1994 to 1997, inclusive. A decline quickly followed, however, as in 1998, 1999, and 2000, there were 9, 8, and 7 vessels participating each year, respectively.

There has been a recent shift in the importance of different gear types among community vessels targeting Pacific cod. During the 1993 to 1998 period, 95 percent of Pacific cod landed by Unalaska-owned vessels under 60 feet were caught using jig gear. In 1999 and 2000, catch by vessels using longline gear increased significantly but specific figures cannot be disclosed due to confidentiality restrictions. Table 2.2-13 presents information on number of Unalaska/Dutch Harbor vessels specifically targeting Pacific cod by gear type use. As some vessels utilize more than one type of gear, the total number of vessels that fished in any given year may be less than the sum of the counts by gear types for that year. As shown, the number of vessels using jig gear far outnumber the vessels using any other gear type for all of the years shown.

Table 2.2-13 Number of Unalaska/Dutch Harbor Vessels < 60' Targeting Pacific Cod in the Bering Sea by Gear Type Utilized, 1992-2000

	Number of Vessels					
Year	Longline	Jig	Other	Pot	Trawl	Total
1992	4	3	0	0	0	6
1993	1	2	0	0	0	3
1994	1	12	0	0	0	13
1995	3	12	0	0	0	13
1996	1	18	1	0	1	19
1997	2	13	1	1	0	15
1998	0	9	0	0	0	9
1999	2	8	1	0	0	9
2000	2	7	0	0	0	7

Source: CFEC/ADFG Fish Tickets, June 2001

According to one local long-term fisherman, while there has been more local groundfish activity utilizing jig gear since the development of the contemporary small boat groundfish fleet, there has been an increasing emphasis on longline gear in the past couple of years by some local residents (and this observation is consistent with the quantitative data available). In addition to these individuals, there are also individuals who, while not long-term residents, fish the area on a generally regular basis using small vessels and longline gear. According to this fisherman, at the time of the interview (late 2001), there were about three small boat longline fishermen who "live in houses" in the community, another three or so who lived on their boats, and about three others who seasonally came to the area to fish, with some turnover being common in the latter group. Characterizing the level of effort of the "local" component is problematic with currently available data. Most deliveries by these vessels have been characterized as being made at two local small processors rather than the large volume "industrial" plants due to a typically better price structure, but a relatively small portion is reported to also be made at the largest plants in the community for a variety of reasons, including the ability to obtain different types of operational support at the larger facilities that are unavailable at the small processing operations.

It is also important to note that there are a number of vessels that are not owned by community residents in the under 60 feet class that deliver to Unalaska (and Beaver Inlet) processors. Table 2.2-14 provides information on ex-vessel revenues for all under 60 feet vessels that make local deliveries and includes all groundfish species, including Pacific cod, sablefish, and so on. Examining the figure for the fixed gear vessel class 33 to 59 feet for 2000, it can be seen that the value for this sector alone ($1.23 million) is about 12 times higher than the total ex-vessel revenues for all Unalaska/Dutch Harbor resident-owned under 60 feet vessel classes combined for the same year ($0.10 million, as shown in Table 2.2-12). While the Unalaska/Dutch Harbor-owned small vessels may not fish far from the community, it is clear from the landings data that small

vessels in these same gear classes from other communities fish far from their owners' communities (i.e., in the Unalaska/Dutch Harbor area).

Table 2.2-14 Groundfish Ex-Vessel Revenue of Vessels <60' Delivering to Processors on Unalaska Island, 1992-2000

Year	Ex-Vessel Revenue by Gear Type (millions of dollars)				
	Trawl Catcher Vessels < 60'	Fixed Gear Catcher Vessels 33-59'	Fixed Gear Catcher Vessels ≤ 32'	Ghost	Total
1992	0.14	1.75	0.11	0.01	2.01
1993	0.05	0.78	0.02	0.01	0.86
1994	0.01	0.64	0.17	0.01	0.83
1995	0.05	1.62	0.12	0.07	1.86
1996	0.02	0.93	0.10	0.03	1.08
1997	0.00	0.65	0.09	0.03	0.77
1998	0.02	0.31	0.10	0.02	0.45
1999	0.08	0.70	0.04	0.12	0.94
2000	0.03	1.23	0.02	0.03	1.31

Note: Includes landings to the Northern Victor, which operates in Beaver Inlet outside of any municipal (or borough) boundary, but not landings to the Arctic Enterprise, which operated in Beaver Inlet for part of this period, but more recently has been operating in Akutan Bay. Other than the Northern Victor, all landings were made within the municipal boundaries of Unalaska.

Source: CFEC/ADFG Fish Tickets, June 2001

Unalaska did not qualify as a CDQ community, but it is an ex-officio member of the APICDA. This CDQ group partners with both an onshore and offshore entity and offers training programs in Unalaska. Though Unalaska is not formally a CDQ community, according to interview data it is in fact where more of APICDA training and other programs are run because of the size of the population it services in the community. Although theoretically the recent increase in CDQ quota under AFA hurt the community as a non-CDQ participant, the simultaneously occurring increase in onshore quota, again in theory, more than made up the difference. The precise impacts of this shift on the community are not possible to ascertain with available data, but it is known that given CDQ partnerships with onshore and offshore sector participants that directly or indirectly benefit the community through either local economic activity or payment of taxes in one form or another, the consequences of the change are likely to be minor indeed. When queried about the impact of CDQ allocation change, a number of respondents offered the opinion that it was simply a "cost of doing business."

Large Vessel Fleet

The large vessels from outside of the community that are associated with the individual shoreplants are discussed in overview in the processor section, and in more detail in the Seattle profile as that is the home community for the large majority of the locally delivering fleet. This section provides some information on the Unalaska community links to that fleet, and attributes of that fleet that are relevant to local community social impacts of rationalization.

Ownership patterns of the large catcher vessels have been changing in recent years, however, and this is making the local versus outside fleet dynamic somewhat more complex. This is more obvious within the groundfish fishery (and the pollock fishery specifically) than it is within the crab fishery. Within the pollock

fishery, one of the trends in recent years has been the dramatic increase in ownership and/or control (through third-party entities with some type of business relationship to the processors) of pollock harvest vessels by the shoreplants in Unalaska. Prior to this pattern of acquisition, it was accurate to say that no permanent residents of Unalaska were involved in the pollock fishery as vessel owners, nor were any vessels homeported out of Unalaska in the sense of being the community of residence for the skipper and crew. With the changes in ownership patterns have come complexities for the description of the relationship of the harvest fleet to the community. While it is still true to say that no independent fishermen who are permanent residents of the community own pollock harvesting vessels, some pollock harvesting vessels are now owned (partially or wholly) by economic entities based in the community (or, given the complex nature of corporate relationships and/or restrictions on foreign ownership of the fleet, by entities with close relationships with entities based in the community). This change in ownership pattern, while it may have shifted where vessels are homeported or, perhaps more importantly from an economic perspective, spend more of the year, it is still the case that very few, if any, permanent residents of the community work on pollock harvesting vessels.

Under AFA conditions, there have been some additional changes in ownership of catcher vessels delivering to Unalaska, and the details of this shift are analyzed the Council's AFA Report to Congress (NPFMC 2002). There have been examples in Unalaska of a vessel being purchased by other vessels within a co-op and the redistribution of the purchased vessel's quota share being distributed among other vessels in the co-op, and of vessels changing ownership and moving between co-ops that are based in different communities. Further, quota has been rented to other co-op members as well. None of these changes involved local residents, and none of the shifts of quota resulting from these actions are considered of a magnitude to have created community level impacts.

There are also indications that there are fundamental changes in relations between vessel crew and owners with the conversion of one or more vessel crew compensation structures from a share to a wage basis on vessels controlled by processing entities. How closely this is tied to rationalization itself, and how this experience may in turn be generalized to crab rationalization conditions is unclear; however, this type of shift is perhaps consistent with an assigned quota system where vessel revenues are generally predictable. Crew share systems are, of course, well suited for a fishing environment where the crew shares in the economic risk and benefits in the rewards of uncertain outcomes. However, with what is essentially corporate ownership of a stable quota share, there are those who feel that results can be obtained from vessels without utilizing a share incentive system. This is consistent with the observation of one locally based skipper, that with the AFA co-op quota assignment system, operating a vessel has become more like "running a combine" than hunting, as "everything is in fences now." Different AFA processors in Unalaska have very different vessel ownership/control patterns, with one processor having virtually no ownership interest (having decreased from a minor ownership share previously) while others have quite strong interests. While these specific changes may or may not be rationalization/AFA influenced in their timing, clearly the trends of processor control of catch capacity leading to these logical consequences were operating in the pre-AFA environment. Further, there has been considerable speculation related to the differential economics of various price points when it comes to what plants pay for fish, given different catcher vessel ownership relations. Where plants control a large portion of the delivery fleet (and can thus decide where to take their profits in that transaction), the price paid to non-directly controlled vessels becomes a marginal cost, with different rules about what makes economic sense in comparison to a fleet not controlled by a processor. While there were numerous opinions about the logical outcome of these circumstances under an AFA-driven management regime, clearly these potential changes have not yet fully played themselves out in the relatively brief time since the implementation of onshore co-ops in Unalaska.

According to interviews conducted in 2001 for an AFA social impact assessment (NPFMC 2002), while there has been leasing of quota between vessels that resulted in greater overall economic efficiency, there have been some cases where there has been a reluctance of vessel owners to trade the resource due to concerns or lack

of trust in what NMFS or NPFMC may do in the long run. That is, despite incentives to lease quota, some owners are still protective of maintaining an ongoing history of direct participation in the pollock fishery as a hedge against possible future changes in fishery management. It would seem likely that the situation would be similar under crab rationalization but, of course, the ultimate degree of similarity between the two programs would influence this.

Another change among catcher vessels participating in Unalaska-based pollock co-ops is the level of information sharing between vessels, such that vessels can coordinate catch timing and location to optimize timing at the processing plant. In some ways, the co-ops have resulted in "absolute flexibility" from the perspective of coordination and running a processing plant. From the perspective of the catcher vessel owner, although most agree wholeheartedly that co-ops are a better management system than complete open access, the current system in some ways represents a loss of flexibility in terms of the strength of ties to a particular processor. Of course, the change with co-ops is to some degree more apparent than real, given the existing ownership/control patterns of a good proportion of the fleet and the limited number of delivery options available to vessels without a commitment to any particular plant.

Yet another change in the 1999-2001 era is the differential importance of small harvest vessels for some operations in the face of harvest area restrictions related to Steller sea lion resource protection areas. Catch and delivery by co-op member vessels that are small enough to fish inside areas closed to the larger vessel classes can be coordinated to optimize the overall delivery schedule. This has been recognized as an important strategic approach by at least one processor to date, but clearly the utility of such an approach is enhanced or limited by the scale of the individual processing operation. This situation is quite different for the crab fleet.

Another type of relationship change between catcher vessels and shore processors in Unalaska resulting from the implementation of co-ops is the degree of management coordination between the vessel co-op and the plant, as realized in the creation of co-op manager positions. These individuals represent the co-op in dealing with plant management and are privy to a level of detail about plant operations and economics that simply was not communicated to the catcher fleet prior to the formation of co-ops. It would seem likely that this type of system would also be implemented were crab co-ops to be formed.

Processing

The history of shoreplant operations in Unalaska is available in the NPFMC community profiles developed for the Inshore/Offshore-1 amendment (IAI 1991), and more recent changes in the range of variation of operations in the community have been summarized in other NPFMC and NMFS documents (e.g., the NPFMC Inshore/Offshore-3 SIA analysis [IAI 1998], Groundfish SEIS [NMFS 2001c], and the Steller Sea Lion Protection Measures SEIS [NMFS 2001a]) and are not recapitulated here. Rather, this section focuses on recent changes in the sector with respect to the crab fishery and the relationship of the sector to the community.

Tables 2.2-15 and 2.2-16 display information on processing value of BSAI crab species included in the various rationalization alternatives for the years 1991-2000 for crab processors in Unalaska. Table 2.2-15 shows information by species and year expressed in dollars and, as shown, Bering Sea opilio accounts for the highest value of any individual species over this time span. Table 2.2-16 also provides processing value information, but expressed as a percentage of total crab processing in any given year. The columns in this table allow an at-a-glance assessment of the "relative worth" to the community of the individual species on a year-by-year basis. Year-to-year fluctuations are also readily apparent.

Table 2.2-15 Total Processed Value of Relevant BSAI Crab Species, by Species and Year, Unalaska/Dutch Harbor, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
Adak Brown	*	$406,804	$1,008,234	$3,551,623	$4,694,263	$4,259,832	$2,736,065	$2,092,597	*	*	$26,485,948
Adak Red	$628,287	*	$833,116	$448,594	*	*					*
Bristol Bay Red	$22,554,898	$13,878,772	$20,056,151			$13,100,272	$14,450,603	$17,515,278	$31,129,150	$18,012,029	$150,697,153
Bering Sea Opilio	$51,287,353	$52,921,301	$40,503,037	$34,314,827	$49,456,163	$21,165,078	$31,514,104	$48,119,450	$55,389,253	$17,660,661	$402,331,228
Bering Sea Tanner	$18,991,940	$21,101,260	$14,708,378	$14,065,868	$4,752,284	$2,273,672					$75,893,402
Dutch Harbor Brown	$7,441,719	$6,452,093	$6,977,340	$14,145,081	$12,613,791	$11,131,177	$6,689,920	$5,553,268	*	*	$89,023,225
Pribilof Blue					*	*	$150,458	$226,386			*
Pribilof Red			$3,459,866	$2,387,839	*	*	$279,598	$301,596			$7,641,142
St. Matthews Blue	*	*	$1,764,533	$2,888,624	*	$1,415,847	$2,246,873	$592,422			$12,052,640
Total All 9 PMA Species	$102,770,766	$96,593,841	$89,310,654	$71,802,456	$75,309,503	$54,619,132	$58,067,621	$74,400,998	$98,224,315	$48,328,306	$769,427,591
"Big 3" PMA Species	$92,834,191	$87,901,333	$75,267,566	$48,380,694	$54,208,448	$36,539,022	$45,964,707	$65,634,728	$86,518,402	$35,672,691	$628,921,783
"Other 6" PMA Species	$9,936,575	$8,692,509	$14,043,088	$23,421,762	$21,101,055	$18,080,110	$12,102,914	$8,766,269	$11,705,912	$12,655,615	$140,505,808
All 9 PMA Species	$102,770,766	$96,593,841	$89,310,654	$71,802,456	$75,309,503	$54,619,132	$58,067,621	$74,400,998	$98,224,315	$48,328,306	$769,427,591

"Big 3" includes Bristol Bay Red, Bering Sea Opilio, and Bering Sea Tanner
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001

Table 2.2-16 Processed Value of Relevant BSAI Crab Species, by Species and Year, as Percentage of Community Annual BSAI Crab Processed, Unalaska/Dutch Harbor, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
Adak Brown	*	0.4%	1.1%	4.9%	6.2%	7.8%	4.7%	2.8%	*	*	3.4%
Adak Red	0.6%	*	0.9%	0.6%	*	*	0.0%	0.0%	0.0%	0.0%	*
Bristol Bay Red	21.9%	14.4%	22.5%	0.0%	0.0%	24.0%	24.9%	23.5%	31.7%	37.3%	19.6%
Bering Sea Opilio	49.9%	54.8%	45.4%	47.8%	65.7%	38.8%	54.3%	64.7%	56.4%	36.5%	52.3%
Bering Sea Tanner	18.5%	21.8%	16.5%	19.6%	6.3%	4.2%	0.0%	0.0%	0.0%	0.0%	9.9%
Dutch Harbor Brown	7.2%	6.7%	7.8%	19.7%	16.7%	20.4%	11.5%	7.5%	*	*	11.6%
Pribilof Blue	0.0%	0.0%	0.0%	0.0%	*	*	0.3%	0.3%	0.0%	0.0%	*
Pribilof Red	0.0%	0.0%	3.9%	3.3%	*	*	0.5%	0.4%	0.0%	0.0%	1.0%
St. Matthews Blue	*	*	2.0%	4.0%	*	2.6%	3.9%	0.8%	0.0%	0.0%	1.6%
Total All 9 PMA Species	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
"Big 3" PMA Species	90.3%	91.0%	84.3%	67.4%	72.0%	66.9%	79.2%	88.2%	88.1%	73.8%	81.7%
"Other 6" PMA Species	9.7%	9.0%	15.7%	32.6%	28.0%	33.1%	20.8%	11.8%	11.9%	26.2%	18.3%
All 9 PMA Species	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

"Big 3" includes Bristol Bay Red, Bering Sea Opilio, and Bering Sea Tanner
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001

To provide a sense of scale of the operations in Unalaska/Dutch Harbor compared to the total fishery, Table 2.2-17 provides total value figures for the individual relevant crab species and species groupings. Table 2.2-18 then provides a percentage of Unalaska/Dutch Harbor fishery processing value in relation to the overall fishery for the species and groups by individual year and then averages over the 1991-2000 period. As shown, local processing of Bristol Bay red king crab accounted for 42 percent of the value of all Bristol Bay red king crab processed in all locations combined over the period 1991-2000. The analogous figures for Bering Sea opilio and Bering Sea tanner were 28 percent and 36 percent, respectively.

Table 2.2-17 Total Processed Value of Relevant BSAI Crab Species, by Species and Year, All Regions, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total 1991-2000	Grand Total 1995-1999
Adak Brown	*	$6,013,424	$3,431,551	$9,922,351	$9,587,972	$5,561,192	$5,060,055	$4,269,733	*	*	$68,375,383	$30,988,844
Adak Red	$3,437,171	*	$2,591,292	$1,153,226	*	*					*	*
Bristol Bay Red	$55,047,519	$41,931,730	$57,085,291			$33,511,393	$28,472,117	$37,165,122	$68,611,798	$35,989,449	$357,814,418	$167,760,429
Bering Sea Opilio	$164,468,126	$160,094,620	$173,026,231	$195,666,718	$172,167,486	$88,140,168	$92,337,590	$135,847,412	$179,572,974	$55,826,325	$1,417,147,650	$668,065,630
Bering Sea Tanner	$56,192,838	$59,162,105	$41,988,229	$35,366,058	$11,923,660	$4,595,405					$209,228,294	$16,519,064
Dutch Harbor Brown	$10,073,012	$8,706,764	$7,501,708	$17,958,861	$13,590,498	$11,131,177	$7,536,623	$6,013,306	*	*	$102,156,799	$47,580,263
Pribilof Blue					*	*	$1,197,625	$947,811			*	*
Pribilof Red			$10,292,145	$8,833,837	*	*	$2,400,131	$1,318,743			$26,904,807	$7,778,826
St. Matthews Blue	*	*	$8,621,773	$14,587,522	*	$7,933,359	$10,816,369	$5,462,634			$70,701,739	$31,759,688
Total all 9 PMA Species	$305,695,929	$289,853,730	$304,538,220	$283,488,574	$221,109,681	$154,074,142	$147,820,510	$191,024,760	$264,003,323	$111,690,223	$2,273,299,091	$978,032,416
"Big 3" PMA Species	$275,708,483	$261,188,454	$272,099,751	$231,032,776	$184,091,146	$126,246,965	$120,809,707	$173,012,534	$248,184,771	$91,815,774	$1,984,190,362	$852,345,124
"Other 6" PMA Species	$29,987,446	$28,665,275	$32,438,469	$52,455,798	$37,018,535	$27,827,177	$27,010,803	$18,012,226	$15,818,551	$19,874,449	$289,108,729	$125,687,292
All 9 PMA Species	$305,695,929	$289,853,730	$304,538,220	$283,488,574	$221,109,681	$154,074,142	$147,820,510	$191,024,760	$264,003,323	$111,690,223	$2,273,299,091	$978,032,416

"Big 3" includes Bristol Bay Red, Bering Sea Opilio, and Bering Sea Tanner
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001

Table 2.2-18 Processed Value of Relevant BSAI Crab Species, by Species and Year, Unalaska/Dutch Harbor as Percentage of Total BSAI Crab Processed, All Regions, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total 1991-2000	Grand Total 1995-1999
Adak Brown	*	6.8%	29.4%	35.8%	49.0%	76.6%	54.1%	49.0%	*	*	38.7%	54.4%
Adak Red	18.3%	*	32.2%	38.9%	*	*	n/a	n/a	n/a	n/a	*	*
Bristol Bay Red	41.0%	33.1%	35.1%	n/a	n/a	39.1%	50.8%	47.1%	45.4%	50.0%	42.1%	45.4%
Bering Sea Opilio	31.2%	33.1%	23.4%	17.5%	28.7%	24.0%	34.1%	35.4%	30.8%	31.6%	28.4%	30.8%
Bering Sea Tanner	33.8%	35.7%	35.0%	39.8%	39.9%	49.5%	n/a	n/a	n/a	n/a	36.3%	42.5%
Dutch Harbor Brown	73.9%	74.1%	93.0%	78.8%	92.8%	100.0%	88.8%	92.3%	*	*	87.1%	93.8%
Pribilof Blue	n/a	n/a	n/a	n/a	*	*	12.6%	23.9%	n/a	n/a	*	*
Pribilof Red	n/a	n/a	33.6%	27.0%	*	*	11.6%	22.9%	n/a	n/a	28.4%	23.1%
St. Matthews Blue	*	*	20.5%	19.8%	*	17.8%	20.8%	10.8%	n/a	n/a	17.0%	19.4%
Total all 9 PMA Species	33.6%	33.3%	29.3%	25.3%	34.1%	35.4%	39.3%	38.9%	37.2%	43.3%	33.8%	36.9%
"Big 3" PMA Species	33.7%	33.7%	27.7%	20.9%	29.4%	28.9%	38.0%	37.9%	34.9%	38.9%	31.7%	33.9%
"Other 6" PMA Species	33.1%	30.3%	43.3%	44.7%	57.0%	65.0%	44.8%	48.7%	74.0%	63.7%	48.6%	57.1%
All 9 PMA Species	33.6%	33.3%	29.3%	25.3%	34.1%	35.4%	39.3%	38.9%	37.2%	43.3%	33.8%	36.9%

"Big 3" includes Bristol Bay Red, Bering Sea Opilio, and Bering Sea Tanner

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001

Tables 2.2-19 through 2.2-22 provide detailed break-out of processed weight and value of processed fish by species group by year for Unalaska. Given that these data are from a different source as the data in Table 2.2-10, the totals do not match, but the intent of the tables is to give a sense of overall effort and value of commercial fish landed in the community and changes through time, and specifically the role and importance of crab relative to other species.

Table 2.2-19 provides information on total processed weight by species group by year for 1991-2000, and Table 2.2-20 provides the same information by percentage for each year. Important information for recent years to note is the overall dominance of pollock and the second tier domination of other groundfish and crab in landing volumes. Second, the precipitous decline in crab landings from 1998 (the highest volume since 1991 over the 1991-2000 span) to 1999 (still the second highest year since 1992) to 2000 (far and away the lowest volume year of this period and just 19 percent of the highest year) is readily apparent. Pollock landings, on the other hand, increased from 1998 to 1999, and then again in 2000, reaching its highest level for the 1991-2000 period in 2000. Clearly, the recent increase in pollock landings in the community is related to AFA reallocation of quota to onshore processing entities (which increased the inshore component from 35 percent to 50 percent of the BSAI pollock TAC[15]) as well as increases in the overall TAC itself.

[15] Inshore/Offshore-3, passed by the NPFMC in 1998, was scheduled to take the inshore component from 35 percent to 39 percent of the BSAI pollock TAC by reallocating 4 percent away from the offshore sector (and leaving the CDQ preallocation set aside at 7.5 percent). This planned shift never took place, however, as it was superceded later that same year (before implementation) by AFA. After CDQ and incidental take allocations were "taken off the top," AFA allocated 50 percent of the remaining TAC to onshore sector, 40 percent to the offshore catcher processor sector, and 10 percent to the newly created mothership sector (which had previously been a part of the offshore sector along with catcher processors). AFA also increased CDQ set aside to 10 percent of the overall TAC.

Table 2.2-19 Volume (in Pounds) Processed by Unalaska/Dutch Harbor Processors, by Fishery Category and Year, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
PMA Crab	81,311,175	78,432,337	55,476,378	31,692,433	25,249,299	26,863,160	39,323,229	80,038,944	56,283,073	15,342,221	490,012,249
Non-PMA Crab	240,678	741,303	1,659,918	2,455,160	3,156,676	1,574,496	597,851	155,524	323,555	165,671	11,070,832
Salmon	6,200,015	6,677,910	14,855,001	12,998,733	9,951,176	8,494,899	5,102,131	10,055,269	14,384,810	5,434,743	94,154,687
Halibut	2,452,401	2,555,789	3,530,379	2,738,901	3,048,416	1,792,292	4,244,506	2,549,845	5,152,783	see note	28,065,421
Sablefish	2,545,110	2,978,115	1,309,902	1,130,290	2,691,699	1,402,901	1,353,774	783,257	734,033	1,171,391	16,100,472
Pollock	461,621,153	602,517,363	637,230,059	662,013,632	570,886,988	531,907,758	578,715,025	604,877,659	679,171,596	693,429,290	6,022,370,523
Pacific Cod	41,549,645	23,088,933	32,783,213	56,194,934	65,329,047	86,665,493	71,135,761	45,560,405	36,478,301	52,008,168	510,793,900
Other Groundfish	14,562,453	8,348,204	2,589,760	20,997,064	22,283,634	14,219,510	41,919,159	4,367,610	5,499,948	8,327,767	143,115,109
Other Fisheries	1,525,017	2,091,133	3,177,083	7,364,974	5,966,828	8,060,362	2,464,434	2,502,305	2,293,388	1,387,816	36,833,340
Non-Commercial	555,613	124,877	19,583	113,367	550,835	20,704,368	19,035,013	19,137,962	28,312,272	118,829	88,672,719
Total	612,563,260	727,555,964	752,631,276	797,699,488	709,114,598	701,685,239	763,890,883	770,028,780	828,633,759	777,386,005	7,441,189,252

Notes: Halibut numbers are not available for 2000.
Most numbers are likely to be underestimates and should be used as indicators rather than exact measures. See text.
Table includes ALL processors in the named community, whether they processed relevant BSAI crab or not.
Non-commercial includes forfeited bycatch, test fisheries, CDQ, etc.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table 2.2-20. Percentage of Total Volume Processed by Unalaska/Dutch Harbor Processors, by Fishery Category and Year, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
PMA Crab	13.3%	10.8%	7.4%	4.0%	3.6%	3.8%	5.1%	10.4%	6.8%	2.0%	6.6%
Non-PMA Crab	0.0%	0.1%	0.2%	0.3%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%	0.1%
Salmon	1.0%	0.9%	2.0%	1.6%	1.4%	1.2%	0.7%	1.3%	1.7%	0.7%	1.3%
Halibut	0.4%	0.4%	0.5%	0.3%	0.4%	0.3%	0.6%	0.3%	0.6%	see note	0.4%
Sablefish	0.4%	0.4%	0.2%	0.1%	0.4%	0.2%	0.2%	0.1%	0.1%	0.2%	0.2%
Pollock	75.4%	82.8%	84.7%	83.0%	80.5%	75.8%	75.8%	78.6%	82.0%	89.2%	80.9%
Pacific Cod	6.8%	3.2%	4.4%	7.0%	9.2%	12.4%	9.3%	5.9%	4.4%	6.7%	6.9%
Other Groundfish	2.4%	1.1%	0.3%	2.6%	3.1%	2.0%	5.5%	0.6%	0.7%	1.1%	1.9%
Other Fisheries	0.2%	0.3%	0.4%	0.9%	0.8%	1.1%	0.3%	0.3%	0.3%	0.2%	0.5%
Non-Commercial	0.1%	0.0%	0.0%	0.0%	0.1%	3.0%	2.5%	2.5%	3.4%	0.0%	1.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Halibut numbers are not available for 2000.
Most numbers are likely to be underestimates and should be used as indicators rather than exact measures. See text.
Table includes ALL processors in the named community, whether they processed relevant BSAI species crab or not.
Non-commercial includes forfeited bycatch, test fisheries, CDQ, etc.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table 2.2-21 presents information on the value of processed fish by species group by year for the period 1991-2000 for Unalaska. Table 2.2-22 provides the same information on a percentage basis. As shown, despite the volume domination of pollock in recent years, crab dominated local value among all species during most recent years. During the period 1991-2000, crab value from the species proposed for rationalization was higher than pollock value except for 1992 (when the value of pollock exceeded that of the relevant crab species by about $13 million), 1997 (pollock surpassed crab by approximately $11 million) and 2000 (when the value of pollock was approximately $36 million greater than crab). As can be seen, the increase in value of landings in the community attributable to AFA-related redistribution of pollock TAC allocations between sectors was more than offset by the decline in crab landings in 2000. For the period overall, crab accounted for approximately $629 million and pollock accounted for approximately $553 million in value of locally processed fish.

Table 2.2-21 Value (in Dollars) of Fish Processed by Unalaska/Dutch Harbor Processors, by Fishery Category and Year, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
PMA Crab	$70,127,427	$67,256,910	$70,868,058	$64,946,324	$63,124,225	$53,321,214	$48,114,977	$63,689,328	$84,648,984	$42,425,541	$628,522,988
Non-PMA Crab	$706,700	$1,775,508	$2,501,828	$5,016,100	$6,159,017	$2,013,879	$1,609,819	$349,045	$966,569	$483,358	$21,581,823
Salmon	$4,552,531	$7,398,910	$10,013,630	$12,551,911	$7,746,147	$6,659,712	$3,108,353	$4,100,565	$6,288,310	$3,437,423	$65,857,492
Halibut	$4,747,846	$2,366,389	$4,497,715	$5,271,277	$5,714,417	$3,528,928	$8,561,085	$2,307,552	$9,320,102	see note	$46,315,334
Sablefish	$2,596,082	$3,527,305	$1,382,767	$1,479,770	$4,965,125	$2,657,017	$3,067,087	$1,078,649	$1,311,388	$2,395,279	$24,460,469
Pollock	$37,435,879	$80,128,990	$44,444,685	$50,586,973	$55,400,054	$42,959,231	$58,971,109	$41,755,636	$62,437,793	$78,626,839	$552,747,189
Pacific Cod	$7,778,885	$3,780,580	$4,462,915	$7,667,686	$10,989,681	$13,939,735	$11,286,448	$7,029,881	$8,819,980	$15,040,665	$90,796,456
Other Groundfish	$1,570,794	$823,404	$630,176	$1,622,946	$1,662,513	$845,177	$1,998,103	$253,459	$307,857	$611,064	$10,325,493
Other Fisheries	$796,861	$267,593	$1,121,952	$1,224,803	$1,253,862	$2,402,055	$350,490	$385,208	$513,402	$235,741	$8,551,967
Non-Commercial	$53,826	$3,242	$6,703	$15,862	$488,417	$2,473,490	$2,659,737	$3,017,412	$5,249,780	$421,324	$14,389,793
Total	$130,366,831	$167,328,831	$139,930,429	$150,383,652	$157,503,458	$130,800,438	$139,727,208	$123,966,735	$179,864,165	$143,677,257	$1,463,549,004

Notes: Halibut numbers are not available for 2000.
Most numbers are likely to be underestimates and should be used as indicators rather than exact measures. See text.
Table includes ALL processors in the named community, whether they processed relevant BSAI crab species or not.
Non-commercial includes forfeited bycatch, test fisheries, CDQ, etc.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table 2.2-22 Percentage of Total Value of Fish Processed by Unalaska Processors, by Fishery Category and Year, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
PMA Crab	53.8%	40.2%	50.6%	43.2%	40.1%	40.8%	34.4%	51.4%	47.1%	29.5%	42.9%
Non-PMA Crab	0.5%	1.1%	1.8%	3.3%	3.9%	1.5%	1.2%	0.3%	0.5%	0.3%	1.5%
Salmon	3.5%	4.4%	7.2%	8.3%	4.9%	5.1%	2.2%	3.3%	3.5%	2.4%	4.5%
Halibut	3.6%	1.4%	3.2%	3.5%	3.6%	2.7%	6.1%	1.9%	5.2%	see note	3.2%
Sablefish	2.0%	2.1%	1.0%	1.0%	3.2%	2.0%	2.2%	0.9%	0.7%	1.7%	1.7%
Pollock	28.7%	47.9%	31.8%	33.6%	35.2%	32.8%	42.2%	33.7%	34.7%	54.7%	37.8%
Pacific Cod	6.0%	2.3%	3.2%	5.1%	7.0%	10.7%	8.1%	5.7%	4.9%	10.5%	6.2%
Other Groundfish	1.2%	0.5%	0.5%	1.1%	1.1%	0.6%	1.4%	0.2%	0.2%	0.4%	0.7%
Other Fisheries	0.6%	0.2%	0.8%	0.8%	0.8%	1.8%	0.3%	0.3%	0.3%	0.2%	0.6%
Non-Commercial	0.0%	0.0%	0.0%	0.0%	0.3%	1.9%	1.9%	2.4%	2.9%	0.3%	1.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Halibut numbers are not available for 2000.
Most numbers are likely to be underestimates and should be used as indicators rather than exact measures. See text.
Table includes ALL processors in the named community, whether they processed relevant BSAI crab species or not.
Non-commercial includes forfeited bycatch, test fisheries, CDQ, etc.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Community Processing Operations Overview

In terms of links to the community, it is important to note that shoreplants have long been a part of the community. Among the large plants processing crab in the community, the facility now operating as Alyeska Seafoods was originally constructed by Pan Alaska Seafoods in the early 1960s, UniSea began local operations in 1975, the permanently moored Royal Aleutian has processed locally under its current name since 1986 (but earlier was operated by a previous owner as the Whitney in the same location), Icicle Seafoods has been processing locally since 1987, and Westward Seafoods was locally established in 1990. That is not to say that relationships between the plants and the community itself have been without strain at times over the years, but in Unalaska a number of the longer-term residents working at the plants, especially management level personnel, are actively involved in the community and serve in various elected, appointed, and volunteer capacities with the City of Unalaska and numerous community organizations. For example, at the time of fieldwork for this project (December 2001), the mayor's position and one of the city council positions were filled by persons employed by processors.

Paradoxically, it has been the case in Unalaska that length of local residency of the workforce employed in seafood processing is inversely related to the vitality of the local industry in general. When the workforce was largest, there were virtually no local hires, particularly of long-term residents. For example, in 1982, at the height of processing capacity for king crab, there were no individuals identified as local residents working in the processing plants. There were a number of reasons cited for that fact at the time, including working conditions, pay rate, and work hours at the seafood plants that were attractive only to temporary transient workers. At that time, workers were hired out of the Pacific Northwest, typically Seattle, and were flown to Unalaska to work on a 6-month contract basis. With the downturn in the crab fisheries, companies are no longer able to afford the expenses of a 6-month contract system. Some have done away with such contracts and hire workers for an indefinite period of time with incentives for longevity; others hire more out of the Alaska labor pool than in the past.

Several other factors influencing local hires in periods of fluctuation should be noted. First, under boom conditions there is a range of available employment options for local residents outside of the less appealing processing jobs. Second, when there is a downturn in hires at the local processing plants, virtually all of the

workforce at the individual plants consists of returning workers, obviating the need for new hires. Even when 6-month contracts were most common, there was always a core of returning workers. Third, setting aside the lack of long-term resident hires, Unalaska is seldom the "point of hire" for processing workers for individuals who are newly arrived to the community. That is to say, people do not come to Unalaska for processing work unless they have already secured a position. It is far too expensive to fly out to the community on the off chance they might gain employment, particularly at relatively low-paying jobs, especially given the fact that there is seldom housing available in the community and that which does come available is relatively expensive. Fourth, it should be noted that a lack of local hire does not apply to all positions with the seafood companies. Management positions at nearly all of the seafood companies (as well as with the major fisheries support sector companies) are occupied by individuals who, if not originally from the community, are at least long-time residents of the community or the region. In a number of ways, the processing industry is a "small circle" in terms of managers, and individuals who have worked for more than one company and have gained 10 to 20 years of experience in the community and the region are not uncommon. Individual owners and, in the case of "permanently" moored floating processors, even the plants themselves may come and go, but individuals in upper level management positions tend to remain in the business and in the area.

Very few, if any, lifetime residents of the community work at the shoreplants at any one time. There are a number of reasons commonly cited for this, but the most common dynamic involves the high cost of living in the community. Costs are such that it is nearly impossible for a local resident to take an entry- level job at one of the plants, and better paying jobs at the plant are typically filled by individuals who have "worked their way up" within the company. Further, according to interview data, local residents who have tried working at the plants have found that entry-level position work schedules are not typically compatible with an active involvement in community and family life outside of the plant.

Interviews with processing plant personnel suggest that a major operational impact experienced by the community of Unalaska since the passage of AFA and the formation of the co-op system has been the slowing down of the spreading out of pollock processing activity. While some plants reported minor changes in numbers of personnel associated with pollock processing operations, for the most part levels have stayed almost the same, given the need for a full complement of staff to run the plants. What has changed is that, according to senior plant personnel, workers are working less hours per day and working for longer periods than was the case at the end of the open access era. Workers are reportedly earning perhaps slightly more than in past seasons, but it is taking them more days of processing to do so, given the shorter workdays. This has had some impact on recruiting personnel, as there are some processing workers who want to come to the community for a relatively brief period of time and maximize the number of hours worked during that time. This strategy allows them to return to their home communities with more money while being away from family and friends for a shorter period of time. Plant personnel also note that recruiting for processing workers has been more difficult during the time that there is a strong economy in the Lower 48 (the contiguous states), a circumstance that continued through early 2001.

Plant personnel also note that there is still a "race" interval during pollock processing under AFA conditions, and that occurs during roe season. Roe is at optimal quality for only a relatively short period, so there is a premium placed on maximizing return within that relatively short window. Further, non-roe pollock are also harvested to target maximum returns based on quality of fish, but those windows are much larger than the roe window.

These changes to groundfish patterns have had an impact on crab processing at plants that run both sets of species. One change within shoreplants as a result of co-op/AFA-related conditions has been the addition of additional pollock products to the processing mix. During open access when highest throughput was the goal, the returns on a number of specialty products were not worth the time (and opportunity costs) that such production would take. Some plants that concentrated heavily on surimi are now producing pollock fillets.

Fillets are more labor intensive to produce than surimi, and so theoretically would result in more employment at the plants, but in practice plant operations typically split their labor forces between a "surimi side" and a "seafood side" of operations. Producing pollock fillets means a diversion of some pollock to the "seafood side" of the operation and this has happened at the same time that the seafood side of local operations has been in decline with the shrinking of crab quotas. At least two of the major AFA plants have reported that they did not use dedicated crews for crab processing because of the sharp decline in volume in 2000, such that pollock seafood side products have picked up some of the slack, with workers switching to processing other species as they become available. With the slowing of the pace of processing, at least one shoreside operation has closed a relatively inefficient but significant portion of their plant in favor of maximizing use of other portions of the plant. One operation reports more workers on site than in the recent past, but another reports labor force is down somewhat from the peak years when the crab quota was larger. The combination of balancing seafood with surimi production, and adding fillet and other product capacity makes comparing workforces between years with quite different circumstances like "comparing apples and oranges" in the words of one plant manager, but overall, the level of processor employment change directly related to AFA does not appear to have had a significant impact on the community of Unalaska.

Unlike the case with the AFA, there have been recent disruptions to plant operations associated with recently imposed Steller sea lion protection measures. According to senior staff at the local AFA plants, there were times during the pollock season of 2000 when the individual plants ran out of fish during what would otherwise have been continuous operation periods. When plants shut down during production, there are disproportionate inefficiencies created not just by the downtime, but by required cleaning as well. Plant managers were of a common opinion that the 2000 A/B seasons were a marked success under AFA co-op conditions, but that in the C/D season, the Steller sea lion protection measures "took away" at least some of the gains realized under AFA. On the other hand, the opinion was universally held among plant managers that the AFA mitigated, at least to a degree, the negative impacts to the Steller sea lion protection measures (i.e., without the AFA, the negative impacts of the protection measures would have been much worse). In concrete terms, in addition to timing and effort inefficiencies, the sea lion protection measures hurt shoreplants in terms of fish quality and age, something that the AFA had allowed the plants to make gains on compared to the derby system context pre-AFA. While Steller sea lion measures confound the direct assessment of at least some AFA impacts, shore processors report that overall they are doing well. As their utilization has improved, they can time product mix to markets more efficiently, they can more efficiently ship product, and they can run higher value products than in the past, among other factors. In 2001, the first full year under more stringent sea lion protection measures, plant shut-downs were reportedly much less common than in 2000, with harvesters and processors having improved at anticipating operational constraints inherent under resource protection area closure conditions.

Under AFA co-op conditions, there has been some shift in inshore pollock away from Unalaska Island with the move of the Arctic Enterprise floating processor from Beaver Inlet to Akutan (coincident with its purchase by a new owner), but this shift has not had direct consequences on the community of Unalaska. Local revenues were not affected, as Beaver Inlet is outside of the municipal boundaries of Unalaska, nor is Beaver Inlet part of an organized borough, so there were no local taxes that derived from that operation. (Processing operations outside of organized boroughs and municipalities pay fish taxes directly to the state, and Unalaska, like other communities, receives a portion of these revenues back from the state through revenue sharing, but this is a modest revenue source compared to taxes derived from entities operating within city limits.) The operation was supported logistically out of Unalaska as the closest transportation hub, but that is still the case to some degree even with the vessel operating out of Akutan.

From the Unalaska shoreplant perspective, one negative aspect of the AFA is "the way other species were carved up." One plant manager cited the example of yellowfin sole being capped, "therefore any growth has to occur at sea [i.e, among non-AFA entities] because shoreside is capped." In terms of community

implications, this type of sideboard arrangement does preclude local AFA processors from potentially diversifying into other fisheries and therefore increases local dependency on fewer species than may be theoretically desirable. However, in practical terms the community is already heavily dependent upon pollock and crab, and fluctuations in those fisheries are much more important to the economic well-being of the community than any other species that is recognized at present to have at least some commercial potential. There are other communities in the region, however, for whom AFA does represent preclusion from developing at least a portion of a local commercial fishery. The CDQ analysis section of this document mentions this being a potential issue in St. George and False Pass, and it is also an issue for Adak, where there are attempts being made to attract commercial fisheries activity to help provide an economic underpinning for the redevelopment of that former military community.

Unalaska non-AFA processor response to AFA is mixed. In 2000 (the first year of AFA shoreside co-ops), crab-dependent entities were more affected by changes in crab quota and price than by AFA interactive effects. The largest non-AFA crab producer in the community reported that during 2000 there was no apparent "cap overflow" from the AFA processors to his operation, and that while overall the AFA was beneficial to his particular business, there was not the level of benefit from the capping of competition at the AFA plants that had been anticipated. These circumstances changed somewhat in 2001, as the plant did receive some cap overages. This processor also noted that the downside of the AFA from their perspective was the preclusion of shoreside crab plants moving into pollock at a later date if business conditions would otherwise dictate that such an expansion would be a good strategic move.

Small entities in the community that do a variety of specialized processing and custom packing in conjunction with AFA plants report that AFA has had negative impacts on their operations in general, and for crab operations in particular. For example, those that do custom processing of crab in conjunction with AFA plants now, in a sense, compete with those plants because their crab "counts against" the AFA plant's crab cap. In other words, unlike in the past, cooperation with a custom processor is limiting what the AFA plant can do on their own as they are essentially "giving away" a part of their cap limit by doing so. Also, with the slowing down of the AFA plants during pollock season, there is the opportunity for the larger plants to explore custom products that were not worth their while during the race for fish, so the larger plants may now be interested in providing some of the custom services that the small operations provided in the past. During interviews, small operation owners also found the "locking up" of pollock by the AFA-qualified shore processors disconcerting because of the effect of precluding them from exploring that niche or diversifying into that market in the future. It is also the case that the small processors have less political leverage in the management process and can afford less representation at fishery management meetings. These operators feel that they are not competing on a level playing field because of the management of the fishery being biased toward the interests of larger firms, with the AFA providing one more example of this general trend. One of the specialty processors notes that they have been successful in competing for the halibut market specifically because the fishermen own the quota rather than the larger processing entities.

Current Crab Operations

The plants that currently run BSAI crab in Unalaska can be grouped into four different categories: the large multispecies plants, a crab focused operation, a mobile processor, and two specialty entities. The large multispecies plants are UniSea, Alyeska, and Westward, and their operations have been profiled in earlier documents, so only limited crab information is presented here. All are AFA-qualified groundfish plants, and all process a wide range of species.

UniSea is now focused exclusively on Unalaska as a base of operations within Alaska, having recently discontinued crab processing in St. Paul. The three main crab species run currently are opilio, Bristol Bay red king, and brown king crab, with some other species run in lesser amounts. Like other AFA plants, UniSea

adjusts its operations around the schedule of the unrationalized crab fisheries. For example, opilio season overlaps with pollock roe and cod season, so during this time rather than bring in a pulse of workers just to do crab, value added products for groundfish are suspended during this period to the extent it makes sense to do so (making adjustments for the high-value, short-lived pollock roe season). When fully operational, UniSea has approximately 1,200 workers in Unalaska, including processing, direct support, and other business functions. For the fall Bristol Bay red king crab season, pollock operations are more flexible and can be moved forward to "create a hole" for crab processing. In other words, the unrationalized crab fisheries do impact the flow of other, even rationalized operations, and this impact may be seen in what the plant is able to do with those groundfish fisheries at the time of the overlap. Brown king crab processing is described as "more hit and miss" such that it can be handled with resident crews without much juggling between species. During early summer slow periods approximately 400 workers are on site, as work during May and June focuses on maintenance and fabrication as well as running halibut and black cod. In the July through mid-October time frame, around 900 workers are present, with a step down during king crab season to around 500 to 550 workers. During November and December operations about 350 personnel are present. UniSea does provide idled workers with room and board during the slow winter time if they choose to remain in the community for the upcoming season. At the time of fieldwork in December 2001, approximately 80 workers were taking advantage of this opportunity.

Alyeska Seafoods takes a slightly different approach to balancing crab and pollock operations. During this last year (2001), the plant basically shut down pollock processing for a 2-day period during the peak of king crab but otherwise did crab processing as "hole" in groundfish processing like UniSea. During the longer overlap with opilio season the plant cannot afford to shut down pollock production, so Alyeska changed its pollock product mix to less labor intensive product forms. Alyeska has not run the more sporadic brown king crab for a number of years. Total worker numbers for the plant are primarily constrained by housing capacity, and the regular crew of about 70 is augmented with seasonal workers during busy periods to bring the total staff present on site up to approximately 425 persons. Maximum levels are hit during the pollock A/B seasons, while about 350 are present during C/D seasons.

Westward Seafoods, in addition to their other operations, has a high capacity crab plant and, according to senior plant staff, essentially runs every species of BSAI crab other than hair crab. The plant has a reported capacity of approximately 500 thousand pounds per day for opilio and 650 to 700 thousand pounds per day of king crab, meaning the plant has somewhat different operational parameters than even some of the other large processing plants. Crab processing is characterized as part of the core business at Westward, and in recent years crab processing capacity has been increased along with crab-related dock expansion projects and an increase in storage areas for pots and other gear. The number of processing personnel on site varies by season, with the largest number of workers (approximately 700 to 750) present during the January through March period during pollock, opilio, and cod activity. From mid-April through June, the local workforce is down to approximately 350 people, and activities during this time include the IFQ fisheries. From July through the end of October, approximately 600 to 650 personnel are on site for the bait, herring, and pollock fisheries, among others. From November through the end of the year local employment is at its ebb, with about 250 personnel engaged in cleanup, maintenance, and some relatively low volume processing, including brown crab. Crab processing occurs intermittently through the year with season openings. As for crab-specific processing employment, approximately 200 processors are brought in specifically for opilio, and about 100 workers are dedicated to red king crab, with additional crab-specific workers needed if the seasons are longer. For the intermittent or lower volume crab fisheries, other seafood processing workers handle crab processing without the need for dedicated crab crew.

Royal Aleutian is unique among processors in Unalaska as its operations focus almost exclusively on crab, although the plant also does run some halibut in the summer. Halibut in recent years has become more of a custom packing operation in relation to what was common before the introduction of IFQs in that fishery.

With the shortened crab seasons, Royal Aleutian faces a different set of challenges than the larger multispecies plants. It is the only major community-based crab processor in the region that is not an AFA-qualified company, and it runs no pollock or codfish. With local king crab processing lasting 4 or 5 days and opilio 5 or 6 days, it is a major challenge to find an effective workforce to bring to the community for such a short period of time. Rather than attracting people as a primary job, it is more like "paying for an Alaska adventure" to get people to come for the brief periods. The plant utilizes a workforce of approximately 150 people for king crab operations and about twice that for opilio processing. For a 5-day processing season, workers are in the community for about 6 or 7 days. The situation is somewhat different for brown king crab. While in the not-too-distant past local processing of this species would last 3 to 4 months, at present it lasts less than a month, so the 100- to 150-person workforce is in the community approximately 3 weeks. Reportedly these three species make up the vast majority of processing at the plant, although it does run "a smattering" of other crab species. Despite a relatively low overhead between seasons, the processor is still in the difficult position of trying to make a financial go of it for the year with very short processing intervals. Clearly of all the local processors, crab rationalization would proportionately do more for Royal Aleutian than the others, given the structure of the operation and the nearly exclusive nature of its engagement with the crab fishery. Royal Aleutian did benefit to some degree by crab caps on AFA processors, taking deliveries from over-cap vessels from the fleet of another processor during at least 1 of the 2 post-AFA years. Royal Aleutian is also somewhat different from the other local plants in the degree it buys from local small boat fishermen, an ability due at least in part to its different scale of operations. For example, Royal Aleutian purchases local herring, which is reported to not be economically feasible for the larger plants. Given the structure of the business, Royal Aleutian also buys proportionally more goods and services than the larger plants, although UniSea is noted in the community as also purchasing more locally than the others. Given the lack of dock space compared to other processors, the Royal Aleutian-related fleet also uses proportionally more City dock space during the off seasons, and the processor underwrites this vessel expense.

Local Icicle Seafoods operations have yet a different focus from the other local processors. The Bering Star typically processes cod in the community (tied up at the northern end of Dutch Harbor) for the January through May time frame, leaves the community to participate in the Togiak herring and Bristol Bay salmon fisheries, and then returns to the community in July to run codfish through October. The Arctic Star is less frequently in the community, as it follows fisheries from southeast to the Pribilofs, but it processes king crab in Unalaska. If both vessels are in town at the same time, the Arctic Star processes in the Wide Bay portion of the Unalaska Bay. Unalaska does not see an influx of Icicle employees in the same way as it does for other processors, as the employees tend to follow mobile Icicle operations, and employees can be shifted between company barges, floaters, and shore facilities as needed. The Bering Star operates with a crew of 100 plus when it is in the community, while the Arctic Star can have somewhere in the range of 100 to 150 workers, depending on a number of variables. Icicle's floater Northern Victor, which processes in Beaver Inlet, does not operate within the city of Unalaska and does not process crab, although it was set up to do so before Icicle acquired the vessel. The Discovery Star, which also operates in the region, focuses on herring and salmon, but not crab, and will be operating in Adak in combination with the former Norquest facilities that Icicle recently acquired. The degree to which crab is run locally versus elsewhere depends on the individual season. The focus for king crab is Unalaska, but opilio may be run either just in Unalaska or in both Unalaska and St. Paul, depending on whether it is a big season.

Osterman Fish, located in the Dutch Harbor Mall on Amaknak Island, is one of two small processors in the community that does not have dock space of its own. It does not have its own fleet like the larger entities and focuses primarily on the "fresh and live" market. The main products of the enterprise do not involve crab, although some custom operations have been conducted with other processors.

Prime Alaska Seafoods, with facilities on the "Little South America" portion of Amaknak Island as well as Dutch Harbor itself, like Osterman Fish, does not have its own dock space or a fleet. While Prime Alaska

did include crab in its operational mix in recent years, it is no longer active in crab processing. This has been more a decision based on wishing to maintain other cooperative business relationships with larger crab processors in town rather than strictly crab economics *per se.*

While both Osterman Fish and Prime Alaska Seafoods have crab processing histories, they would not qualify for future participation (at least in terms of initial allocations or conditions) under some rationalization scenarios. For example, Table 3.5-2 in the main document illustrates one possible outcome under a co-op approach that would not encompass either Osterman or Prime Alaska. (This same scenario would effectively eliminate Kodiak plants from future participation in a rationalization structure as well.)

Support Services

Unalaska is unique among Alaska coastal communities in the degree to which it provides support services for the Bering Sea fisheries. One long-time resident noting the lack of a truly local fleet stated that "this is a service town, not a fishing town." As described in detail in the Inshore/Offshore-1 community profile (NPFMC 1991), Unalaska serves as an important port for several different aspects of pollock fishery, and this same pattern holds true for the crab fishery. Support services include a wide range of companies, including such diverse services as accounting and bookkeeping, banking, construction and engineering, diesel sales and service, electrical and electronics services, freight forwarding, hydraulic services, logistical support, marine pilots/tugs, maritime agencies, gear replacement and repair, vessel repair, stevedoring, vehicle rentals, warehousing, and welding, among others. There is no other community in the region with this type of development and capacity to support the various fishery sectors in the Bering Sea.

Shoreplant Support

In general, in the way of support services, there is little direct supply of the main shoreplants in the community. This is especially true of the large combined crab and pollock oriented shoreplants, by far the largest plants in the community. These are large enough entities that it is more efficient to supply most on-site needs directly from outside of the community. These plants all feature an "industrial enclave" style development to some degree, but this varies from operation to operation. Plants may purchase some regular items such as rain gear and boots for processors locally that they do not want to keep in inventory, but major purchases may be limited to fuel sales. Commonly large volume supplies, such as packaging materials and food are purchased "down south" and shipped direct. Individual processing plant workers do patronize local businesses to some extent, but this is limited by the fact that they are supplied furnished housing and meals by the processors. The smaller operations in Unalaska have proportionally more local purchases of goods and services in the community. The major non-pollock crab processor in the community noted that because of the scale of their operation they did buy most services in town, but that with the overall decline in the support service sector of the economy they have seen "about a half dozen" of their vendors leave the community.

Vessel Support

There are a number of businesses in Unalaska that are oriented toward supporting catcher vessels for a significant amount of their business. With the recent decline in crab harvest, which occurred simultaneously with a decrease in the race for fish during the locally important pollock fishery, there has been a drop-off in peak demand for services. The amount of this drop-off depends on a number of different factors, including the relative reliance on crab and trawl fleet support. According to one service supply business manager who is quite heavily dependent upon trawl vessels, the co-op system in theory should help his business out in the long run, because even if overall there are less vessels with quota reassignments within co-ops, it will be the less efficient vessels that drop out, leaving more predictability and more secure players. In practice, a good

portion of the support business in Unalaska has been built on inefficiencies, as according to this manager "this was Unalaska business." Like many of the support service businesses contacted, the common pattern for his business was to have a limited staff of year-round personnel and to ramp up capacity during peak periods by bringing in temporary or seasonal staff from "Outside" (i.e., from the Lower 48). This is true both for vessel oriented service firms that are parts of larger regional or national entities as well as for more locally based firms (and of the latter there are very few). With the conditions created by AFA in conjunction with the fall in crab quotas, there have been employment cutbacks at all of the businesses contacted in this subsector, either in the form of having fewer year-round personnel or in hiring fewer seasonal hires for peak demand, and in all cases a cutting back of overtime hours for staff. One electronics firm contacted is at half the level of employment that was typical in pre-co-op circumstances, and this was not an unusual case. One local business manager captured a common sentiment regarding the cutbacks and the quality of the jobs remaining in the community, however, with the observation that with the cutback "we have been trading money for sanity." In the words of another business owner, during the days of the race for fish "I didn't know I was crisis oriented" and in the time passing since crisis mode he has had to find other ways of making the business work. In this particular case of a locally owned vessel support business, survival has meant diversifying away from relying on the fishing industry nearly exclusively by performing similar services for land-based businesses (and adding new marine-oriented services) and away from relying on Unalaska as a nearly exclusive geographic base of revenue by taking his services to the region and beyond.

Another common problem with these businesses is inventory, and this has changed somewhat under co-op conditions (again, depending on how relatively dependent a business is on trawl-specific trade). Under race for fish conditions, carrying a larger than normal relative to overall volume of sales inventory was necessary due to the need to have virtually everything possible on hand instantly in case of need during the fishing season, as downtime for vessels off of the fishing grounds meant unacceptable opportunity losses, and vessels were willing to pay whatever it took to get them back on the grounds as quickly as possible – time was worth more than the cost of urgent repairs. As the race for fish went away, it was much more efficient to order specialty parts express shipped in from the Lower 48 (typically Seattle) if needed than to try and stock everything in Unalaska.

Depending on the composition of the business base of these firms, they have been hit more or less hard by the decline in the crab quota. According to one business manager, with the loss of income to crab vessels, he has seen his crab vessel support business drop off 50 percent as owners are not spending money on preventative maintenance; those who are performing work are slower to pay their bills. Rationalization may be expected to change crab-dependent businesses somewhat, but that depends on the nature of services performed. For example, some vessel preparation work needs to be done once per season, no matter whether it is a short or a long season. On the other hand, some work is directly related to intensity of use such as the "number of turns" on hydraulic equipment. One support service business owner observed that crab seasons have now become so short as to be "almost inconsequential" for his business, although when he started, the local crab and shrimp fisheries were the base of his business.

With the trawl fleet, the slowing down of the race for fish has also meant that the trawlers are spreading their business differently in the community, according to support business owners. Not only is less money being spent overall because of the relative lack of urgency, "now money managers are involved" in looking at relative value between providers and shopping work around. For a number of the support businesses that service the catcher fleet, the loss of a large portion of the catcher-processor fleet was a large blow. While these large vessels did not employ the full range of services that some of the smaller catcher vessels might have employed in the community (simply due to their facilities being unable to handle all of the work), they did need specialty service work from a number of the suppliers.

Another common observation of the support sector within the community is that while the relatively longer pollock seasons are good for the community as a whole, a number of entrepreneurial businesses have folded, and the redundancy among (or the range of choices among) service providers has been reduced. The flip side of this means that, according to one fishing business manager, they can be more selective in their purchasing of services and "everything no longer needs to be at a premium price in Dutch Harbor."

Fuel sales are another type of locally provided support for the catcher vessel fleet. The Steller sea lion restrictions that went into place in the C/D seasons in 2000 have meant an increase in fuel sales due to longer vessel trips to the open fishing grounds. This, coupled with co-occurring high fuel prices has meant higher costs to the catcher vessel (and the catcher-processor) fleet. While the fuel sales businesses have benefitted (as has the municipality of Unalaska through tax on the fuel sales), the vessels and shoreplants (because of the higher cost of fuel they are purchasing) have been hurt.

There is a significant amount of support business in the community that is directly related to the offshore fleet. Catcher processors use warehousing services, and refuel and resupply when they are in the community to do a full or partial offload of product. Additionally, catcher processors typically need a range of expediting, freight management, and logistical support services through Unalaska to keep operating in the Bering Sea. This is true for both crab and groundfish catcher-processor vessels. For groundfish vessels, this basic pattern has not changed in the post-AFA era, but the volume of local work is down significantly due to both the reduction in the catcher-processor fleet and the slackening of the pace of fishing during the 1999-2001 era.

Shipping

Shipping seafood products is also a major business sector in the community. In addition to the two main and several smaller shipping lines that serve the community, another type of support service provided in the community for both the inshore and offshore fleet is stevedoring services. While some shoreplants typically do not use stevedores in loading operations across their docks, or the demand is lower for stevedoring because of containerized product, hatch gangs are used for loading product "over the side" to trampers for shipment from Unalaska. Stevedoring jobs are relatively high paying, and much valued in the community, though the work is not steady for the bulk of persons engaged in it. What does make this labor opportunity particularly valued is the fact that long-term locals, including lifetime residents, may qualify for, and provide a viable labor pool for, these positions without having to go through minimum-wage entry positions first. There are also union and non-union laborers alike who come to the community during the busy seasons to take advantage of the opportunities available in the community.

With the recent changing of the pace and structure of the groundfish fishery with co-ops, shipping business patterns have changed in the community. The largest difference is attributed to the fact that processors can now much more closely time their operations and shipping needs and can thus optimize their range of shipping choices. This opens up a range of options not readily available under race for fish conditions. For example, processing entities can more easily arrange for scheduled transfers direct to trampers rather than having to use always available locally established shipping firms to transfer product. Of course, shipping choices ultimately depend on product mix, destination, and cost efficiencies, but clearly local shipping-related entities have felt impacts directly as a result of fishery structure changes. There are also indications that shoreside plants have shifted to a greater emphasis on tramper shipments relative to containerized shipments, but no quantitative information is available to verify this assertion. In terms of crab specifically, however, crab remains the major product shipped for at least one of the container companies. According to one shipping company manager, a major recent change in shipping has been movement to unitized cargo loading. Whereas in the past, trampers were used because they were fast and containers were used because they were

good quality, unitized cargo loading has meant that tramper shipped goods can equal the same quality as container-shipped goods.

In the 1999-2001 era, there has been a reported shift in product destination from Unalaska, with less product going to Asia and more going to domestic and European markets, due primarily to change in product mix. One of the large shipping firms in the community reports that there has been almost a 100 percent fall-off in business to his company from the offshore sector since AFA, and increases from the shoreside have not made up for this change. This is attributed to the fact that without the Olympic system, seafood companies can schedule and plan offloads, meaning that they can make their own arrangements rather than having to go through a shipping company that is always available. Similarly, the onshore sector can more easily schedule tramper loads. The situation is not straightforward, however, for the two primary shipping companies with a local presence in Unalaska. There has been some movement of market share between the two firms that, according to some, were as closely associated with ownership and corporate changes as much as any local market forces. According to one firm, union longshoring hours were down approximately 22 percent between 1998 and 2000. The community has seen a higher proportion of work going to non-union longshoremen recently, although the non-union entities tend to have smaller workforces (partly because of being able to schedule work rather than needing a large on-call labor pool). Co-op conditions have pushed inventories up because of increased recovery rates and diversification of product mix, meaning there has been some increase in demand for cold storage, berthing, dockside services, and so on. While one senior shipping manager has reported that movement of product will become more of an issue with this trend, he also reports that there has been a tradeoff with the slowing of the peak periods post-AFA; even during the busy season, now staff are able to work more normal schedules and can be home with their families by 7:00 p.m. At the same time the two largest established shipping firms were seeing changes in their market share or customer base, two more private dock/shipping facilities emerged in the community, one at the old East Point plant location and another in Captain's Bay. There also appears to be proportionately more offshore-related volume going across municipal docks than was the case in the past, and city revenue from dockage and wharfage in general is up. These two factors reinforce the general observation that shipping-related business is becoming less concentrated among the formerly dominant local entities and more widespread among various smaller entities.

Remote Operations Support

There are also support service providers in Unalaska who support inshore processing entities that are operating far outside of the community. For example, the firm (Icicle Seafoods) that owns the floating processor in Beaver Inlet (Northern Victor) has a local Unalaska representative who supports that operation. (When a second floater was operating in Beaver Inlet, this entity had an office in Unalaska that, among other functions, supported that operation.) Similarly, the company that owns and operates the large shoreplant in Akutan (Trident) has a support office in Unalaska because of their logistical support needs that cannot be managed directly from Akutan.

Summary

In general, the recent changes experienced by support service sector businesses in Unalaska have gone to the heart of the paradox of the Unalaska support service economy. This portion of the local economy was historically dependent to a large degree on the economic inefficiency of the commercial fishing industry. To the extent that the co-op quota allocation system has made pollock fishing more economically efficient, it has also served to allow vessel and facility owners to not have to purchase inefficient support services. This has meant a drop in local support service activity, employment, and revenue. There are no data available to quantify the amount of the drop, but it has clearly been significant for many of the businesses in this sector. Overall, peak demand is lower, the pace of business is slower, money has become at least as important a consideration as time, and businesses do not need the same level of inventory and staff as in the past. There are, of course, exceptions to this

generalization, but the pattern is apparently quite consistent over the sector as a whole. Crab rationalization, whatever its final form, can be expected to continue this general trend. Under AFA co-op conditions, the direct fishery businesses in the community and the municipality itself have seen substantial gains, but the support service impacts have been mixed or negative. It is anticipated that the same type of pattern will be seen with crab rationalization, where there will be a period of some business loss or displacement, followed by a healthier and more stable, if smaller, support sector.

Other Local Business/Service Activity

Tourism continues to develop in the community, with new draws in the last few years associated with an increased local National Park Service presence, the opening of the Museum of the Aleutians, and the continued popularity of charter sport fishing. Sport charter fishing took off in the mid-1990s when world record sport halibut were caught locally in 1995 and 1996, with the latter fish, at 459 pounds, still representing the world record. Birding, hiking, kayaking, camping, and visiting the Holy Ascension Cathedral historic site are also tourism draws, but high cost and inconvenient transportation access make the development of this sector challenging for local businesses. With the slowdown in the race for fish that accompanied AFA, direct fishery-related passenger transportation demand also declined to some degree, although clearly demand was falling off prior to AFA. Table 2.2-23 provides information on passenger counts at the community airport for the period 1995-2001. As shown, the total number of passengers for this span of years peaked in 1996, and counts for 1999 through 2001 are the three lowest annual counts during 1995-2001.

Table 2.2-23 City of Unalaska, Port of Dutch Harbor Airport Passenger Count by Quarter, 1995-2001

Quarter	Calendar Year						
	1995	1996	1997	1998	1999	2000	2001
January-March	16,122	20,380	15,992	20,919	15,672	16,461	14,696
April-June	17,209	16,615	15,772	13,683	14,556	16,480	13,988
July-September	18,015	17,105	16,041	12,909	16,312	15,906	16,086
October-December	13,171	13,323	15,380	15,863	13,740	12,596	13,612
Total	64,517	67,423	63,185	63,374	60,280	61,443	58,382

Note: Data in the table represent a total of enplaned and deplaned passengers, not "round trips" by single individuals (e.g., if 9,000 passengers got off planes in Unalaska during a particular quarter and 7,000 passengers boarded planes in Unalaska during that same quarter, the quarterly passenger count would be 16,000).

Source: Adapted from spreadsheet supplied by City of Unalaska Finance Department, 2002. Data were originally configured in fiscal not calendar year format.

Coupled with these conditions was a decrease in level service caused by the discontinuation of long-time air service provider Reeve Aleutian Airways and a further drop in demand related to the crab quota decline. This resulted in a situation where as of early 2001 the community was served by only one jet per day. According to long-time community residents, this has had an impact on a range of services in the community (such as the price and availability of a variety of food at stores), as well as mail and freight.

Unalaska continues to support a much wider range of non-fisheries-related businesses as well as fisheries support-related businesses than any other community in the region. According to interviews conducted early in 2001, however, business conditions are changing with a general slowdown in the non-fisheries sectors of

the economy, a trend at least partially related to recent structural changes in the groundfish fishery sector as well as the decline in the crab fishery sector. A number of businesses that serve the general public have gone out of business in the recent past, and examples of these businesses, including an office supply store, an auto parts store, a vehicle rental firm, and a bowling alley, were frequently cited during interviews. Also strongly marked was the reduction in number of more direct fishery support businesses that were needed for peak demand times. In this case, it is not that types of services are no longer available, it is more that there is less of a choice of providers of those services. One landlord reports having lost a net company, an electrical firm, a hydraulic firm, and a restaurant all out of a single building. While this is an unusual case, it does illustrate the range of enterprises (and types of fleet support businesses) that have gone out of business.

Table 2.2-24 provides service demand information for the period 1994-2001 from the Unalaska Department of Public Safety. As shown, the number of incidents/calls for service during this period peaked in 1997 and has been down substantially in subsequent years. The number of investigative files/cases, typically indicative of more substantive requests for service, show an overall decline for the first part of the period covered, but an increase over more recent years. Fire responses show no clear pattern, but relatively large fluctuations from year to year are not uncommon due to the low number of responses.

Table 2.2-24 Unalaska Department of Public Safety Level of Service Indicators, 1994-2001

Indicator	Year							
	1994	1995	1996	1997	1998	1999	2000	2001
Total Incidents/Calls	3,795	4,085	4,627	4,981	4,039	3,666	3,450	3,515
Investigative Files/Cases	993	974	944	865	787	802	834	929
Fire Responses	25	34	37	23	24	29	32	38

Source: Notes provided by City of Unalaska Department of Public Safety, 2001, Personal communication, D. Gregory, Chief, Unalaska Fire Department, January 2002

As noted earlier, some community services are utilized by a larger "floating population" than just by community residents. One of these services is the local clinic, and this fact is reflected in their slogan: "Serving Unalaska, the Aleutian Islands, and the Bering Sea." During an interview for this project, two clinic board members stated the clinic had experienced a drop-off in fisheries-related demand for services with the slowing of the fishing seasons. Table 2.2-25 presents selected patient statistics for the years FY 1999 - FY 2001. These data do not show a linear drop-off in a number of indicators that might be assumed to be related to fisheries demand, with the exception of emergency visits, but data prior to 1999 that might show a longer-term trend are not available. According to a board member, changes in demand patterns has the clinic board working toward less of an industrial focus and more of a residential focus in terms of strategic planning for future clinic services. Donations for the clinic are reportedly off as well.

Another change in the local community context noted by multiple interviewees is an increased federal presence in the community. While having nowhere near the presence as in, for example, Kodiak, the U.S. Coast Guard now has a detachment in the community (after the community had lobbied for many years for an increased local presence given the importance of commercial fishing in the community and region). There are also now U.S. Customs and Immigration and Naturalization Service personnel and offices in the community.

Table 2.2-25 Unalaska/Dutch Harbor Community Medical Center, Iliuliuk Family and Health Services, Selected Patient Statistics and Total Revenues, FY 1999 - FY 2001

Patient Services/Visits	Fiscal Year		
	FY 1999	FY 2000	FY 2001
Office Visits	7,024	6,835	8,279
Medivacs	55	68	40
Emergencies	541	428	393
Ambulance Runs	141	162	181
X-Rays	2,665	2,439	2,820
Patients Registered	9,517	9,585	9,833
Total Patient Services Revenues	$2,303,331	$2,191,606	$2,633,776

Source: Iliuliuk Family and Health Services - Unalaska/Dutch Harbor Community Medical Center spreadsheet/personal communication S. Handforth-Kome, January 2002

One change in the community consistently mentioned during interviews with local business leaders (in an unrelated study) in early 2001 was the impacts associated with Steller sea lion protection measures that were put in place during 2000. In the words of one community business leader, the issue is "hanging over the town" and people "can't do any planning" because of it. There is a recognition, however, among at least some of the local residents that other communities in the region are even more vulnerable to community level disruptions resulting from these measures due to a much higher reliance on a small boat fleet that cannot effectively fish outside of the protection zones. While the seasonality of the local economy has changed with AFA-related co-op management/quota allocation conditions, such that peak periods are not as high or sharp, and an increased level of activity lasts longer in the community, the interruptions of the seasons related to Steller sea lion protection measures do cause stoppages and inefficiencies at the major shoreplants in the community.

The housing market of Unalaska has changed significantly in the past few years. Since the development of the contemporary fishery dating back to the 1970s, housing demand consistently outpaced supply in the community, notwithstanding a lull in demand following the crash of the local king crab activity in the early 1980s. Long waiting lists for rental properties were common, and home sales took place essentially as soon as the homes became available, and frequently before the general public knew the house was on the market. More recently, however, at least some rental properties are available without wait, and home sales have turned sluggish. The community has not yet seen a dramatic dip in housing costs, but houses have remained on the market for considerable periods of time. There is at least some concern in the community that either investments in housing will not be realized on the sale of the property or that homes will not be sold in a timely fashion if individuals choose to leave the community.

The Municipality and Revenues

Unalaska derives a significant portion of its municipal revenues from fishery-related activities. Table 2.2-26 presents a breakdown of revenues by source for the City of Unalaska.[16] This provides a sense of scale for the different revenue sources for the City's General Fund. Local taxes include a 3 percent sales tax, an 11.78 mills property tax, a 5 percent accommodations tax, and a 2 percent raw fish tax.

[16] More detailed information is available for Unalaska than for the other Alaska communities profiled. A less detailed table that is comparable to that for the other communities is provided in an attachment to this document (SIA Attachment 2).

Table 2.2-26 City of Unalaska General Fund, Fiscal Years 1998-2001

Revenues	FY 1998	FY 1999	FY 2000	FY 2001
Real Property Tax	2,521,746	2,698,454	2,690,560	2,748,920
Personal Property Tax	1,164,363	1,120,957	1,202,265	1,116,369
Raw Fish Sales Tax	2,641,124	2,513,500	3,410,717	3,065,220
General Sales Tax	3,533,123	3,254,403	3,242,284	3,610,653
Other Taxes	439,735	516,863	509,434	524,195
Intergovernmental/State of AK	6,030,119	6,306,064	5,640,942	6,949,345
Charges for Services	278,703	282,778	279,159	300,809
Permits & Licenses	19,546	13,687	22,018	20,265
Miscellaneous	2,407,515	2,099,082	1,954,352	3,436,551
Other Financing Sources	386,895	273,416	461,817	398,153
Total General Revenue Funds	19,422,869	19,079,204	19,413,548	22,170,480

Source: City of Unalaska Finance Department spreadsheet, 2001; Personal communication with John Voss, City Finance Director, 2001, 2002

Table 2.2-27 provides a breakout of selected fisheries-related General Fund revenue sources. These include the local raw fish sales tax (first instituted in FY 1987), the intergovernmental fisheries business tax, and the fisheries resource landing tax (a relatively recent revenue source, first appearing on City statements in FY 1996). As shown, the local raw fish tax increased substantially from FY 1999 to FY 2000, with the latter encompassing the first half of the 2000 calendar year, the first year of AFA onshore co-ops. Of course, a number of factors influence the volume and value of fish landed in the community which, in turn, translates into taxes paid. (The City of Unalaska does not keep a breakout of revenue generated by species or species group so information is not readily available to calculate the relative revenue contribution of individual species or species groups, but a proxy for that information for the shore-based operations may be found in Tables 2.2-21 and 2.2-22.) Information for FY 2001 shows a further increase in revenues. This fiscal year covers the second half of the first full (calendar) year of onshore co-ops and the first half of the second year of onshore co-ops. It also captures the period when the more stringent Steller sea lion protection measures were put in place during 2000.[17]

[17] All of these numbers must be interpreted with some caution when going beyond a general level, such as when attempting to establish direct links to particular fishing seasons. In some cases, the figures reflect when the money was received by the municipality, and for others they reflect when the transactions from which the revenue derives actually took place (i.e., in accounting terms, the difference between cash-based accounting versus an accrual-based accounting). For example, local fish taxes are paid on the 15th of the month following the month in which the sales transactions took place. An adjustment is taken at the end of the fiscal year, however, to attribute those revenues to the periods where the sales took place. So, for local fish taxes, it is easy to see the link between seasons and revenues (keeping in mind the distinction between calendar and fiscal years). In the case of revenues deriving from the State of Alaska, however, the shared fish taxes are paid for the calendar year by the processors to the state in March of the following year. The State then pays the shared portions out to the local entities in the August-September timeframe. So, for example, ex-vessel value paid by processors in calendar year 2000 is taxed in March 2001. The State then pays the boroughs and cities their share calling it "FY2001 Taxes" in August 2001. This means that a single sales event that is subject to both local and state fish taxes can show up as revenue to the City of Unalaska in two separate fiscal years (and, because of the divergence of calendar and fiscal years as the basis for accounting, the spread between accrual and appearance on reports can essentially be two fiscal years [e.g., shared taxes accrued in January 2000 received in September 2001 would have been based on sales that took place in FY 2000, but it would show up as revenue during FY 2002]). To further complicate time series analysis, the City of Unalaska has changed accounting procedures in recent years, such that shared taxes have effectively shifted the periods during which they appear in financial statements, making comparability between years less than straightforward. Before the City's FY 2000, the fisheries business tax collected by the State for calendar year 1998 was booked in FY 1999. Under the method currently in place, that revenue would be recorded in FY 2000. This means that the FY 1999 and FY 2000 fisheries business tax figures reflected in Table 2.2-27 are the same revenue (they are not exactly equal due to a second, smaller payment from the State to communities in unincorporated boroughs that falls into a different time period). In practical terms, this means that detailed fishing season specific time series analysis is not

Table 2.2-27 City of Unalaska Selected Fisheries-Related General Fund Revenues (in dollars), Fiscal Years 1991-2001

Revenue Source	FY91	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01
Raw Fish Sales Tax	2,851,008	3,681,908	3,131,661	2,641,802	3,340,512	2,212,833	2,641,645	2,641,124	2,513,500	3,410,717	3,065,220
Fisheries Business Tax	2,067,793	2,475,197	3,581,134	2,770,321	2,364,847	2,828,570	2,071,914	2,424,747	2,424,787	2,483,670	3,249,218
Fisheries Resource Landing Tax	NA	NA	NA	NA	NA	2,637,708	3,015,804	2,604,706	2,739,821	2,224,903	2,813,250
Three Source Total	4,918,801	6,157,105	6,712,795	5,412,123	5,705,359	7,679,111	7,729,363	7,670,577	7,678,108	8,119,290	9,127,688

Source: City of Unalaska Finance Department spreadsheet, 2001

One of the impacts of the AFA on the City of Unalaska revenues relates to the additional requirement that at-sea processors count landings outside of state waters as taxable events (under the fisheries resource landing tax). As shown in Table 2.2-27, the local revenue derived from the fisheries resource landing tax increased from FY 1998 to FY 1999 (with the latter year encompassing the first half [calendar] year of offshore co-ops). Revenue from this source, however, fell over half a million dollars between FY 1999 and FY 2000 (the period covering the second half the first year of offshore co-ops and the first half of the second year of offshore co-ops) but rebounded in FY 2001. Looking at the three-revenue source total, although there was some variation in the individual sources, the combined amount was nearly flat at $7.7 million for each year FY 1996 (the first year the fisheries resource landing tax came to the city) through FY 1999. FY 2000 combined three-source revenues rose to $8.1 million, so for the first FY that spanned both offshore co-ops and the start of on-shore co-ops, revenue sources that were directly fishery associated increased over 5 percent. This figure further increased to $9.1 million in FY 2001.

Summary of Recent Community Fishery IFQ/Co-op Rationalization Experience and Implications for Likely Crab Rationalization Impacts

Unalaska entities have direct experience in the rationalization of the halibut and sablefish fisheries under an IFQ management system, and the pollock fishery under a co-op system. This section provides an overview of the potential applicability of community experience with these two systems to broadly similar components proposed as part of the rationalization management alternative for the BSAI crab fisheries.

No recent studies on the impacts of halibut and sablefish IFQ programs on the community of Unalaska are known. Information from interviews would suggest that these programs have resulted in little overall change in the small local harvest fleet. In terms of local processing, interview data would suggest that halibut is less important for larger processors than it was in the pre-IFQ past, but quantitative data show some variability in this regard. At least one small processor has found market conditions more favorable under a halibut IFQ system than was the case with a derby style fishery. In general, it is apparent that market conditions or demands for halibut have changed under the IFQ system, and Unalaska is at a relative disadvantage in shipping fresh as opposed to frozen product from communities with closer ties to a multi-modal transportation system that includes roadways, such as Homer.

possible using commonly published data, but that trend information is readily apparent at the individual revenue source level. In terms of fiscal impacts to municipalities, it is a truism that when revenue is received is more important than when fish are landed, but clearly much other economic activity (and important revenue generation) takes place at the time of landings.

How the community experience with halibut and sablefish IFQs would translate into likely outcomes of a BSAI crab rationalization alternative is less than clear in detail but can be considered in broad brush. Fewer vessels owned and crewed by local residents fish for crab than fish for halibut, and local processors are even less dependent on crab deliveries by the local fleet than they are for halibut deliveries by the local fleet. Given the relative location of the BSAI crab fishing grounds to the community and the different markets involved, it is not considered likely that the community of Unalaska/Dutch Harbor would see a change in its relative importance as a landing port for crab as may have been the case for halibut.

Much more information is available on the community level social impacts seen under the pollock co-op system than is available for the halibut and sablefish IFQ system, due to the study effort that went into the NPFMC's recent Report to Congress on the impacts of the AFA (NPFMC 2002). In general, the impacts seen under AFA and the co-op system, and their applicability to potential BSAI crab co-op management approaches within a rationalization alternative are as follows:

- Seasonal peak population in the community is down with the spreading out of the fishing seasons, and this is in part attributed to pollock fishery co-op conditions. A similar change in the crab fishery could be expected to continue this trend.

- There has been a marked softening of the housing market in the community. While this is a trend that preceded AFA co-ops, AFA co-op conditions appear to have contributed to the continuation of this trend. Although assessed valuation has not declined, it has not kept pace with inflation. Home sales have slowed, and rental vacancies are up. Clearly pollock fishery co-op conditions are but one of a number of contributing factors in this situation, and although its incremental contribution may be small, crab rationalization would be expected to reinforce this trend to some degree.

- The direct fishery-related portion of the economy has benefitted from pollock co-op conditions, especially the municipal revenue streams directly related to pollock landings. This was more a function of quota shift than price, however, so the applicability of this to the crab rationalization alternatives is not clear.

- In the catcher vessel sector, there is little community involvement in the pollock fishery in terms of a "residential fleet." Although some pollock vessels are homeported in Unalaska, none of these vessels are owned or skippered by long-time community residents. Whether the trend seen over the past several years of increasing processor ownership and/or control of catcher fleet making pollock deliveries to local plants has been altered by co-op conditions cannot be seen from available data in the brief post-AFA interval. While there are a small number of locally owned crab vessels, participation has been irregular in recent years due to local area closures, among other factors, and the vast majority of both delivering vessels and volume landed are accounted for by ownership outside of the community.

- In the processing sector, for local AFA/co-op qualified plants employment changes have varied by individual entity. The processing seasons have slowed down and spread out to a degree, but at the same time there have been changes in product mix. For example, at one large plant one major processing line closed directly as a result of the slowing of the race for fish under co-op conditions, but the net number of workers increased. A number of the newly produced products, or products produced in greater or relatively greater volumes are comparatively labor intensive. Co-op-related employment impacts are difficult to ascertain or interpret because of the varying approaches of the different plants and the changes occurring in other fisheries. An example of this is that in 2001, some plants did not utilize a dedicated crab crew as in recent years, but rather, because of increased crew flexibility/availability under co-op conditions combined with lower crab volume, they were able to

staff both functions with a single crew. It is expected that under crab co-op conditions similar dynamics would continue to operate, with even less peak demands.

- Non-AFA local processing plants did experience change as a result of AFA, but this varied by plant type. The medium-size non-AFA plant in the community reported little change in operations. The two smaller plants, on the other hand, reported that the AFA had negative impacts on their operations in several ways. These included the ability of the larger plants to now pursue custom niche markets when they were not able to do so before; the implementation of crab caps on the AFA plants, which meant that cooperative endeavors with the smaller plants now result in a potential loss of volume for the larger plants due to the cooperative undertakings counting against the larger plant's cap; and, loss of flexibility of the smaller plants by preclusion of possible future opportunities of exploiting AFA-regulated fisheries. Depending on qualification period specifics, the large/small plant distinction is anticipated to be less profound in terms of impacts under crab co-ops, as the small plants may qualify for their own co-ops or quota share, unlike the case with the pollock fishery. Similarly, any negative impacts resulting from AFA crab "sideboards" are anticipated to no longer be applicable in a crab fishery managed under the proposed rationalization alternatives.

- In terms of support service sector businesses, Unalaska is the major regional provider of fishery support services. The pollock co-ops made the fishery more efficient in several ways, which is a positive benefit for a number of reasons and within a larger frame of reference, but the local support economy was based, to a significant degree, on inefficiencies in the fishery. In the past, in-season downtime during the race for fish was a potentially catastrophic event, and local firms were structured (inventory, personnel, and number of providers) to respond to those circumstances. With co-op-associated changes in the pace in the fishery, cost of service has became relatively more important than in the past, and immediate response capability does not override all other factors. The resultant restructuring of the support service sector would likely continue or be amplified by a crab fishery managed under the rationalization alternatives.

- Under pollock co-ops, shoreplants have remained more or less self-contained, self-sufficient enterprises in the community. This varies from plant to plant, but operations tend to be of an industrial enclave nature, with a relatively low volume of purchases of goods and services from the local support sector. Crab co-ops are not seen as likely to change this pattern.

- Vessel support businesses have experienced a range of pollock co-op-related impacts. Employment is down, but this is a complex situation. Firms that have fewer positions have tended to just not bring in temporary/fishing season-specific employees, and many businesses report a dropping off of total hours if not a drop in the number of permanent positions. In general, inventory has been reduced due to a drop in peak demand, and the number of support providers is down somewhat. The drop in providers has been more in the nature of a decline in the number of providers for any one service, rather than a decline in the range of services available locally. At the community level, these conditions are related to the local decline in crab landings as well as changes attributable to the pollock fishery, and different businesses have had different outcomes based on their relative dependency on different fleet sectors. Implementation of crab co-ops would be likely to continue this trend.

- The impact of the reduction of the offshore pollock catcher-processor fleet, while not a function of co-ops, has been felt in Unalaska. A number of support service businesses were oriented toward serving this fleet and have been having a difficult time after the fleet reduction. This has, in part, contributed to the overall changes seen in the support service sector. No similar single-sector

reduction impacts are anticipated in the case of BSAI crab co-ops under the rationalization alternatives.

- Because of changes in the race for fish conditions, there has been some move from private to public facilities for shipping related to the catcher/processor fleet, and there has been some shift between communities due to ownership changes that may not be directly related to co-op conditions. Different businesses were differentially impacted based on their client mix, with the businesses that relied most heavily on that portion of the offshore fleet that was excluded (and/or retired/scrapped) experiencing the greatest impacts. Similar changes are not anticipated to follow implementation of crab co-ops, as no particular harvest sector is presumed to experience more consolidation than others.

- Shipping enterprises in Unalaska have felt impacts from pollock co-op formation. The improved ability to predict shipping needs under non-race conditions has meant that there are different viable options now available to those with fisheries product to move. There has been a shift in market share between the two largest shipping firms in town, but this is likely as attributable to changes in and between the two firms as it is to co-op-induced conditions. Relatively more product is moving by tramper than in the past, although this is difficult to quantify, and two new private dock facilities have been put into service during the post-AFA co-op formation era. Union longshoring hours are down, but the relationship of this to total employment hours in the community is unclear due to a recent increase in non-union work volume. While crab co-ops may create some similar conditions, it is not anticipated that the changes will be as substantial, due to inherently less flexible, multiple crab seasons.

- In terms of municipal revenues, general fund revenues deriving from fishery sources have been increasing in recent years. Quantifying the role of pollock co-ops in this increase is problematic due to so many other changes occurring simultaneously. To the extent that improved conditions have led to increased prices, the municipal revenues have benefitted. This is likely an outcome of crab co-ops as well.

- In terms of other types of community changes seen over the relevant time period, it was reported that the community clinic experienced a decrease in demand for acute fishing season needs. This trend may also be expected to continue with the rationalization of the crab fishery.

In sum, the formation of pollock co-ops has had a number of different impacts on the community of Unalaska. The larger pattern of impacts would appear to be direct benefits to those aspects of the participating groundfish sectors present in the community, benefits to the municipality in terms of revenues, and a downward trend or mixed results among the support service sector. Not all difficulties faced by support service sector businesses are attributable to pollock co-ops. These support sector challenges and many of the other changes seen in the community, such as the drop in housing demand, are linked to a "rationalization" or increase in efficiency of the community economy and a move away from an economy geared for a pulse demand cycle and inefficiencies within the commercial fisheries. Pollock co-ops and the AFA in general have played a significant part in this general level change, but trends along these lines were apparent in the community prior to co-op formation. Implementation a rationalization alternative for the crab fishery in general, or co-op provisions in particular, are anticipated to continue these same trends. Overall community impacts may be positive, but there will likely be continued dislocations in the support sector, if only on a one-time or temporary basis as the local economy adjusts to non-race conditions.

It is a truism that the co-ops made the pollock fishery more economically efficient and that the economy of Unalaska, to a degree, is dependent upon economic inefficiencies. Goods and services are relatively expensive to supply locally, and if the balance between the relative value of money and time shifts more

toward money being more valuable, then the local economy will experience a noticeable lessening in demand for services than seen in the community under race-for-fish conditions. Of course, all of the slackening in demand for services cannot be attributed to pollock co-ops. At the same time pollock co-op impacts were being realized in the community, the crab fishery was weathering a sharp decline in quota, and Steller sea lion protection measures were taking their toll on the locally based fishery. In terms of the perception of impacts, or the ultimate consequences of those impacts, a number of individuals from various employment sectors reported that if the non-municipality, non-direct-fishery portion of the local economy is somewhat smaller, the jobs that remain are better jobs, with more regular hours, a better pace, and an overall higher quality of life. In general, a continuation of these trends could be anticipated under crab rationalization conditions.

Differential Impacts of the Three Rationalization Alternatives at the Community Level

As summarized above, in addition to a number of indirect or support ties to the fishery, for Unalaska the direct engagement in, and dependency on, the BSAI crab fishery is based primarily upon ties to local processing activity and secondarily on participation in the harvesting sector. Direct beneficial or adverse impacts to the community of Unalaska deriving from the different rationalization alternatives result from the differential outcomes for these activities.

Each of the rationalization alternatives have identical provisions regarding increased allocations to the CDQ program (inclusion of additional species and an increase in the included species set-aside from 7.5 to 10 percent of the total allocation), creation of captain's harvest quota shares (3 percent of the TAC), and a community development allocation to Adak (10 percent of the WAI golden king crab allocation). Each of these provisions are directed toward fostering beneficial community or social impacts for at least some groups or areas. Unalaska, as a non-CDQ community, would not directly benefit from the CDQ program increases. The creation of captain's shares would likely benefit a few Unalaska residents, but would not be significant on the community level. The Adak community allocation would not have significant beneficial or adverse impacts for the community of Unalaska.

Regionalization is a feature of the three-pie alternative and the IFQ alternative, but is not a part of the cooperative alternative. Regionalization is explicitly designed to create beneficial community or social impacts for at least some groups or areas. The north/south region designation was designed primarily to benefit the Pribilofs, while the west region designation in the WAI golden king crab fishery was designed primarily to benefit Adak.

Impacts of the west region creation would likely be negative for the community of Unalaska, but are not likely to rise to the level of significance. Over the period 1991-2000, Unalaska on average processed approximately 39 percent of the Western Aleutian Islands golden (Adak brown) king crab total harvest. Under regionalization, 50 percent of the total harvest of this fishery would be earmarked for delivery to a newly created west region (west of 174 degrees west longitude, which is far to the west of Unalaska). The remaining 50 percent of the quota would not be regionally designated and could be delivered within or outside of the west region. It is likely that this regional designation will cause a percentage shift of processing for this species away from Unalaska, but the impacts will likely be minor. Over the period 1991-2000, WAI golden king crab accounted for approximately 3.4 percent by value of crab processed in Unalaska. Further, until very recently the entire annual quota was never taken, so Unalaska could conceivably still land the same number of pounds that it has in the past, but this would represent a smaller percentage of the fishery. Additionally, not all of the quota that would be designated for west region delivery would come directly from Unalaska, as there were other processors participating in the fishery (that is, every additional pound processed in the west does not equate to one less pound processed in Unalaska).

Impacts of the creation of the north/south regional split in and of itself under the three-pie alternative are not likely to be significant for the community of Unalaska, absent the accompanying community protection provisions discussed below. Regionalization under the IFQ alternative, which has no specific community protection provisions (save for a waiver of sea time requirements for eligible community purchase of harvest quota share, as discussed below), would not hinder the type of processor consolidation that could have negative impacts on the community of Unalaska, were local crab processing to exit the community. Under the three-pie alternative, Unalaska (which is one of two communities that can be disclosed as eligible for community protection provisions under this alternative out of a total of 8 eligible communities) would retain levels of processing activity seen during the qualifying period (due to a combination of regionalization and community protection features, as described below). The regionalization seen under the IFQ alternative, which does not have community protection features, would not likely have negative impacts for the community, but the community protection features may prevent positive impacts that would otherwise accrue to Unalaska. This would happen if consolidation where quota previously processed in the north region would otherwise end up in Unalaska because of efficiency gains, but cannot do so because of regionalization provisions. Under the cooperative alternative, which does not have a regionalization component, it is unlikely that consolidation would result in processing activity moving from Unalaska to the Pribilofs, but it is conceivable, if not likely, that activity that would have occurred in the Pribilofs under regionalization restrictions would move to Unalaska.

Additional community protection features of a "cooling off" period and a right of first refusal on transfer of processing quota shares are a part of the three-pie alternative (and are not a part of any other alternative). Eligible communities (those that had 3 percent of processing activity for covered species) would be assured that during the 2-year "cooling off" period processing quota would not be moved out of the community. Subsequent transfers would be subject to a right of first refusal that would allow an eligible community (through its CDQ group or another community group, if a CDQ group were not present) to obtain ownership and control over processing quota to retain local processing activity.

For Unalaska, an eligible community, both of these features would have the potential to confer significant beneficial community and social impacts. The "cooling off" period would ensure that processing activity levels seen in the qualifying period would continue in the community, and the right of first refusal would ensure that a local (to-be-formed) community group, would be able to obtain processing quota if it were at risk for leaving the community in the future. Exercising the right of first refusal would likely result in a significant positive benefit to community group and the community. As Unalaska is not in a borough and is not a CDQ community, the entity that would exercise the right of first refusal would represent only the community itself, so there would not be the potential competition of interests as seen under similar circumstances in a number of other communities.

Whether or not these community protection features provide neutral or positive benefits to the community depend on what individual operation's decision making processes would have been regarding consolidation absent these provisions, which is unknowable. For example, without knowing confidential business information, it is not clear whether in the absence of community protection measures consolidation within the processing sector as a result of rationalization would increase or decrease activities in Unalaska. All things being equal, it is assumed that Unalaska is in a favorable situation compared to other communities in the Bering Sea region due to access to transportation and other developed infrastructure and services, and that consolidation would tend to have processing more highly concentrate in Unalaska than was the case prior to rationalization. However, it is not likely that all things will be equal post-rationalization and there may be currently unrecognized incentives that favor consolidation elsewhere.

The rationalization alternatives also differ on the ability of communities to obtain harvest quota share. Under the three-pie and IFQ alternatives, CDQ groups, or other community groups if a CDQ group is not present,

in eligible communities (again, those with 3 percent or more of processing activity for covered species during the qualification period) would be able to purchase harvest quota share due to a waiver of sea time requirements that would otherwise prevent such purchases. By design, the ability to obtain harvest quota share could result in beneficial community and social impacts through communities becoming more directly engaged in the fishery.

In the case of Unalaska, harvest quota shares, if purchased, would be obtained by the to-be-formed community group. If exercised, this ability could result in beneficial community and social impacts through the community becoming engaged in the fishery in a way (or to a degree) that it is not under existing conditions.

Another potentially distinguishing feature of the rationalization alternatives from a community or social impact perspective is the ability of harvesters to form co-ops under the three-pie and cooperative alternatives (but not under the IFQ alternative). For Unalaska, the impacts of this ability (or lack thereof) are not clear, particularly given very small local fleet presence in the fisheries covered by the program. Whatever impacts would derive from co-op activities would likely result from impacts to processors, not from the fleet itself.

2.3 AKUTAN

Akutan is located on Akutan Island in the eastern Aleutian Islands, one of the Krenitzin Islands of the Fox Island group. The community is approximately 35 miles east of Unalaska and 766 air miles southwest of Anchorage. Akutan is surrounded by steep, rugged mountains reaching over 2,000 feet in height. The village sits on a narrow bench of flat, treeless terrain. The small harbor is ice-free year-round, but frequent storms occur in winter and fog occurs in summer. Akutan began in 1878 as a fur storage and trading port for the Western Fur & Trading Company. The company's agent established a commercial cod fishing and processing business that quickly attracted Aleut residents of nearby settlements to the community. A Russian Orthodox church and school were built in 1878, over a decade after Alaska became a U.S. Territory, and the Alexander Nevsky Chapel replaced the original church structure in 1918. The Pacific Whaling Company built a whale processing station across Akutan Bay from the village site in 1912 and it operated as the only whaling station in the Aleutians until it closed in 1939. Incorporated in 1979, the City of Akutan encompasses 32.4 square miles of land and 8.7 square miles of water.

Akutan lies in the maritime climate zone, with mild winters and cool summers. Mean temperatures range from 22 to 55°F. Precipitation averages 28 inches per year. High winds and storms are frequent in the winter, and fog is common in the summer.

Akutan is incorporated as a Second Class City, and, like King Cove (and Sand Point), is part of an organized borough (the AEB). The community of Akutan was previously profiled in the Inshore/Offshore SIA (NPFMC 1991), and the details of that profile will not be recapitulated here. Unlike Unalaska and King Cove, Akutan is a CDQ community. Like Unalaska, King Cove, and Sand Point, Akutan was originally designated as not qualifying as a CDQ community due to the local presence of developed commercial fishing/processing capacity. Subsequently, however, due to the particulars of the historic and contemporary demographic and physical structure of the community, Akutan was able to attain inclusion in the APICDA CDQ group. The main processor in Akutan is Trident Seafoods, which has a large shoreplant in the community. In recent seasons Trident has also had floating processing capacity in Akutan Bay, as a result of the purchase and relocation of the Arctic Enterprise from Beaver Inlet on Unalaska Island. In the past, seasonal processing by other mobile processing entities has also commonly taken place in the bay for various species. However, for at least the past 4 years, Trident has been the only processor in Akutan, reportedly in part because the economics of seasonal processing with floaters has worsened.

Akutan is a unique community in terms of its relationship to the Bering Sea commercial fisheries. It is the site of one of the largest of the shoreplants in the region, but it is also the site of a village that is geographically and socially distinct from the shoreplant. This "duality" of structure has had marked consequences for the relationship of Akutan to the Bering Sea crab and other commercial fisheries. One example of this may be found in Akutan's status as a CDQ community. Initially (in 1992), Akutan was (along with Unalaska, King Cove, and Sand Point) deemed not eligible for participation in the CDQ program based upon the fact that the community was home to "previously developed harvesting or processing capability sufficient to support substantial groundfish participation in the BSAI . . ." though they met all other qualifying criteria. The Akutan Traditional Council initiated action to show that the community of Akutan, per se, was separate and distinct from the seafood processing plant some distance away from the residential concentration of the community site, that interactions between the community and the plant were of a limited nature, and that the plant was not incorporated in the fabric of the community such that little opportunity existed for Akutan residents to participate meaningfully in the Bering Sea pollock fishery (i.e., it was argued that the plant was essentially an industrial enclave or worksite separate and distinct from the traditional community of Akutan and that few, if any, Akutan residents worked at the plant). With the support of the APICDA and others, Akutan was successful in a subsequent attempt to become a CDQ community and obtained that status in 1996. This action highlights the fundamentally different nature of Akutan and Unalaska. Akutan, while deriving economic benefits from the presence of a large shoreplant near the community proper, has not integrated large-scale commercial fishing activity with the daily life of the community. As result, Akutan is the only community in the region that is both a direct major/developed participant in the fishery and a CDQ community.

Community Demographics

Akutan is a community that traces its roots to commercial fishing, fur trading, and whaling. In terms of the population components of the community, and the relationship between local commercial fishery-related workers and the rest of the population, Akutan is unlike Unalaska, King Cove, or Sand Point. Compared to King Cove and Sand Point, the local processing plant is much more of an enclave type of operation than the plants in those communities. It is unlike Unalaska, which features plants with a range of "separateness" from the community, in that few, if any, plant workers of any staff level have become long-term residents of the community.

Total Population

Table 2.3-1 provides figures for the community total population by decade from 1880 through 2000. While U.S. Census figures show Akutan had a population of 589 in 1990 and 713 in 2000, the Traditional Council considers the "local" resident population of the community to be around 80 persons, with the balance being considered "non-resident employees" of the seafood plant. This definition, obviously, differs from census, state, and electoral definitions of residency but is reflective of an observed social reality of Akutan. Figures for recent years are known to include processing workers, but it is not clear in earlier years how and if fisheries or other commercial enterprise-related workers were counted.

Ethnicity

The residents of the village of Akutan, proper, are almost all Aleut. The influence of the commercial fishery-related workers on the ethnic composition of the population, however, may be seen in Table 2.3-2. As shown, less than 16 percent of the population in 2000 was Native American/Native Alaskan.

Table 2.3-1 Akutan Population by Decade, 1880-2000

Year	Population
1880	65
1890	80
1900	60
1910	0
1920	66
1930	71
1940	80
1950	86
1960	107
1970	101
1980	169
1990	589
2000	713

Source: Historic data from Alaska Department of Community and Economic Development, 2000 data from U.S. Bureau of the Census

Table 2.3-2 Ethnic Composition of Population Akutan: 1990 and 2000

	1990		2000	
Race/Ethnicity	**N**	**%**	**N**	**%**
White	227	38.5%	168	23.6%
African American	6	1.0%	15	2.2%
Native American/Alaskan	80	13.6%	112	15.7%
Asian/Pacific Islands*	247	41.9%	277	38.9%
Other**	29	4.9%	141	19.7%
Total	589	100%	713	100%
Hispanic***	45	7.6%	148	20.8%

Source: U.S. Bureau of Census.

* In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 2) and Asian (pop 275)

** In the 2000 census, this category was Some Other Race (pop 130) and Two or More Races (pop11).

*** "Hispanic" is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).

Group housing in the community is almost exclusively associated with the seafood processing workforce. As shown in Table 2.3-3, in 1990 fully 85 percent of the population lived in group quarters and only 15 percent did not. As seen in this same table, in 2000 an even greater percentage of the total population lived in group quarters (89 percent versus 11 percent not in group quarters). Table 2.3-4 provides information on group housing and ethnicity for Akutan for 1990 (comparable 2000 data are not yet available). As shown, the ethnic composition of the group (primarily seafood processing) and non-group housing (primarily long-term residential) segments were markedly different, with the non-group housing population being predominately (83 percent) Alaska Native, and the group housing population having almost no (1 percent) Alaska Native representation.

Table 2.3-3 Group Quarters Housing Information, Akutan, 1990 and 2000

Year	Total Population	Group Quarters Population		Non-Group Quarters Population	
		Number	Percent of Total Population	Number	Percent of Total Population
1990	589	501	85.06%	88	14.94%
2000	713	638	89.48%	75	10.52%

Source: U.S. Bureau of the Census 1990 STF2, Census 2000 Summary File 1

Table 2.3-4 Ethnicity and Group Quarters Housing Information, Akutan, 1990

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	227	37.52%	212	42.32%	15	17.05%
Black	6	0.99%	6	1.20%	0	0.00%
American Indian, Eskimo, Aleut	80	13.22%	7	1.40%	73	82.95%
Asian or Pacific Islander	247	40.83%	247	49.30%	0	0.00%
Other race	29	4.79%	29	5.79%	0	0.00%
Total Population	589	100.00%	501	100.00%	88	100.00%
Hispanic origin, any race	45	7.44%	45	8.98%	0	0.00%
Total Minority Pop	342	56.53%	298	59.48%	73	82.95%
Total Non-Minority Pop (White Non-Hispanic)	247	40.83%	203	40.52%	15	17.05%

Source: U.S. Bureau of the Census 1990 STF2

Age and Sex

Table 2.3-5 shows the population composition of Akutan by sex in 1990 and 2000. As shown the population structure is clearly indicative of a male-dominated industrial site rather than a typical residential community.

Table 2.3-5 Population Composition by Sex, Akutan: 1990 and 2000

	1990		2000	
	N	%	N	%
Male	449	76%	549	77%
Female	140	24%	164	23%
Total	589	100%	713	100%
Median Age	NA		40.2 years	

Source: U.S. Bureau of the Census

Table 2.3-6 provides information on school enrollments in Akutan over the period 1991 to 2002. As shown, there has been considerable year-to-year fluctuation over this time, and enrollments have been lower in recent years than in the earlier years in this time span.

Table 2.3-6 Akutan School Enrollment, FY 1991-2002

Fiscal Year	Student Count
1991	22
1992	24
1993	29
1994	21
1995	24
1996	20
1997	27
1998	23
1999	20
2000	15
2001	15
2002	16

Source: Adapted from spreadsheet supplied by C. Warner, Aleutians East School District, October 2002.

Local Economy and Links to the Crab Fishery

The community of Akutan participates in the BSAI crab fishery through several different ways: locally owned small vessel harvesting, participation in the CDQ program, having a major seafood processing plant located in the community, through having transient floating processors operate locally, and providing limited support services to the fishery in the community. Overall, the private sector economy of the community, exclusive of the local processor, is very limited. The Alaska Department of Community and Economic Development (DCED) (2002) lists a total of six active business licences in the community: the Akutan Corporation, the Bayview Hotel, the Grab a Dab Café, McGlashan Store, Pelkey's Dive Service, and the Salmonberry Inn. It would appear that private sector business ownership is highly concentrated among a very few entities. According to senior city officials, the café is no longer in business, and the Akutan Corporation owns and operates the Bayview Hotel and the Salmonberry Inn. The McGlashan store, while named after the owner of the original store in Akutan, is also owned by the Akutan Corporation. The Roadhouse tavern is another private sector enterprise in the community and one not linked to the Akutan Corporation.

Harvesting

The vast majority of catch landed in Akutan comes off of vessels from outside of the community. While there is a "local" non-CDQ commercial fishery, it is of a small scale, pursued out of open skiffs. In the early 1990s, the local plant reported taking deliveries of groundfish from approximately 12 skiff-type vessels from the village of Akutan itself, but participation in this type of enterprise is not well documented. Such activity is currently (2002) reported at about the same overall level as in the past, with two local residents in particular singled out as consistently making regular deliveries of halibut and black rockfish over time, and the rest making sporadic deliveries. According to City officials, there is one 28-foot vessel in the community and one

that is 24 feet in length, with the rest of the local fleet being comprised of skiffs under 20 feet, with the two larger vessels being the most active. According to interviews, the processor neither encourages nor discourages these deliveries but does purchase all that is made available from local sources. This is not a major source of fish for the plant but is probably a significant source of income for at least a few of the local sellers. APICDA has to date not facilitated loans for a local fleet as it has in some other communities. Akutan differs significantly from other APICDA communities as in Akutan there is already processing capacity present. This, in turn, presumably has an impact on the way APICDA prioritizes its community-specific efforts. One move APICDA is contemplating is moving its sport charter vessel *Grand Aleutian* from Unalaska/Dutch Harbor to Akutan to help foster the development of a sport fishery/tourism niche in the local economy. According to local sources, Akutan fishermen are also looking into purchasing halibut IFQs with the idea of forming a community quota pool in excess of the IFQ held by five or so individuals in the community at present. The president of the local corporation also noted that Akutan residents do participate in the crab fishery as crew members, with "around 6 guys" crewing at different times, although at least some of these crew members have been bumped from participation during CDQ fisheries.

The Akutan delivery fleet for the single processor, including "outside" vessels, was characterized being in turn comprised of several different components:

- about 20 "large" boats with capacities of 500,000 to 1,000,000 pounds, mainly fishing pollock, and primarily with Seattle-area ownership (although they spend most of their time in and around Akutan);
- about 20 "smaller" boats with capacities of 150,000 to 300,000 pounds, mainly fishing pollock and cod, and primarily with Kodiak and Newport ownership;
- the crab boat fleet, that has little overlap with the groundfish fleet (and much less than was the case in the past). A few of the biggest crab boats also fish groundfish, but Trident's fishermen generally seem to specialize in one or the other. Crab boats are a mixture of Kodiak and Seattle-area boats, and the increased specialization in crab or groundfish may be due to the AFA, sideboards, and relative stock sizes. This degree of specialization was the only change in the nature of Trident's delivery fleet in recent years that was described by Trident representatives.
- the truly local "skiff" fleet.

As a CDQ community, the community of Akutan has access to the BSAI commercial fishery resources independently of direct participation in the fishery. Akutan, like the other CDQ communities, has benefitted from the increase under AFA from 7.5 percent to 10 percent of each BSAI groundfish TAC (except for the fixed gear sablefish TACs, of which CDQ communities receive 20 percent for the eastern Bering Sea and the Aleutian Islands areas). Also, like other CDQ communities, Akutan has access to the 7.5 percent CDQ allocation of relevant BSAI crab species. APICDA, including the community of Akutan, has participated in the crab fishery via acquiring partial (25 percent) ownership interest in two crab harvest vessels, the Golden Dawn and the Farwest Leader. In general, APICDA has substantial investments in both harvesting and processing sectors of the BSAI fishery. The most recent executive summary of APICDA's community development plan (APICDA 2002) describes the scope of these investments, as well as the community development goals they serve. In Akutan, the primary thrust is to develop a partnership with Trident to custom process the harvest of local fishermen. As described by a Trident representative, this is still a relatively small operation for Trident but is quite important for a number of local fishermen. APICDA encourages local hire for all of its joint ventures and partnerships, but information on how many locals are actually so employed, and more specifically how many are from Akutan, is not available.

Processing

Trident Seafoods operates the major shore processing facility in the community of Akutan. Trident first opened a shore plant in the community in the summer of 1982, but the original structure was destroyed by

fire in the summer of 1983. The plant was rebuilt later that year, and major expansions were added in the 1990s. Like the large processing plants in Unalaska, the Trident Akutan plant is an AFA-qualified plant with its own pollock co-op. Also like the large Unalaska plants, it is a multi-species processing facility, and it accounts for a significant amount of regional crab processing as well as groundfish processing. Specific figures are confidential. Company representatives report that BSAI crab can comprise a significant percent of the total value of processing at the plant, although the present depressed status of most crab stocks has reduced this percentage in recent years. As a high-value species, however, crab is quite important to the overall operation of the plant (although pollock is still the prime mover in terms of labor requirements and overall economic operations).

In terms of the processing labor force, there has been little change reported in overall size, seasonal patterns, or composition in recent years. Pollock is still the driving force for Akutan employment dynamics. During periods when both pollock and crab may both require significant effort (primarily opilio season) the pollock product mix may be adjusted to less labor-intensive forms (surimi instead of fillets). The same labor force is used for all operations, adjusted as necessary in size by sending people out as the need for labor decreases once the pollock season is over.

In addition to its shore facility, Trident has operated the floating processor Arctic Enterprise in Akutan Bay since its purchase several years ago. Previously operated in Beaver Inlet on Unalaska Island, this is currently (2002) the only floater that operates in Akutan Bay on an ongoing basis, or has for several years. While multiple floaters used to be common, according to city officials this changed due to environmental constraints (as well as changing fishery economics). Around 1990, the U.S. Environmental Protection Agency declared the inner portion of Akutan Bay an "impaired water body" with the result that floaters could not operate in that area. While Akutan Bay was "taken off the list" in the late 1990s, according to city officials, floaters have not returned in number. The Arctic Enterprise operates outside of this inner bay area, but still within Akutan Bay itself. According to city officials, other mobile processing capacity for crab has been brought in by Trident in recent years to help with finishing up during crab seasons.

In terms of the relationship between the plant and the community, social interactions between Trident employees and the other residents of the community are somewhat limited by the fact that the Trident site is more or less an industrial enclave and is separated from the village proper by Russian Orthodox church-owned land, the sea plane ramp, and coastal bluffs. Access and interaction has changed at least to some degree in recent years, however, with the opening of a beach level road from the seaplane ramp to the Trident site and the donation and construction by Trident of a community building for the village that is utilized by workers and local residents alike. This building has a modest sized church with attached living quarters for the minister and a full sized gym. (Because the gym has "church windows," it is sometimes mistaken for a very large church.) The building is located adjacent to the seaplane ramp on land leased from the City of Akutan. As in years past, plant workers make incidental purchases at the village store, and frequent the Roadhouse tavern adjacent to the community that is also patronized by village residents.

In terms of local CDQ involvement in processing, unlike their participation in the groundfish fisheries, APICDA-owned processing capacity does not have a history of BSAI crab processing. APICDA partners with Trident for its CDQ crab processing, which has been most commonly processed in Akutan but is also sometimes processed in St. Paul or on a floater, depending on quota size and fishing conditions. Trident serves as a custom processor for this CDQ crab. APICDA also partners with the Starbound and Trident for CDQ pollock, and Trident's share of the CDQ pollock has usually been processed by the Akutan plant, while most of APICDA's share has been processed by the CP Starbound. Other APICDA CDQ species are harvested and processed primarily through non-Trident enterprises (APICDA 2002).

Support Services

Akutan differs sharply from nearby Unalaska in terms of opportunity to provide a support base for the commercial fishery. Akutan does not have a boat harbor or an airport in the community. There has been some recent (2001) investment by APICDA in a local mooring basin that will help local residents keep their vessels in the water. Located near the seaplane ramp, this facility includes a floating dock for the skiff-sized local vessels, and APICDA has also been involved with obtaining a trailer that can handle up to 45-foot vessels to facilitate getting local small boats in and out of the water. Other than the very small boat facility, there is no boat harbor in the community, although this has been in planning for a number of years. At present (2002), it is in the EIS stage, with construction and completion at least a few years away. APICDA has also reportedly earmarked matching funds in the range of $1 million to be used when development of the boat harbor has begun. While these plans exist, the situation at present is that beyond the limited services provided by the plant, essentially no opportunity exists in Akutan to provide a support base for other major commercial fisheries. Indeed, alternative economic opportunities of any kind are extremely limited.

The only direct fishery support business in the community at present (2002) is a dive operation that involves a couple of individuals plus a couple of helpers on occasion, but there are other enterprises that derive benefits from the fishery in less direct ways. The Akutan Corporation does derive economic benefits from the local shoreplant through some sales of goods and services to local seafood plant employees, including check cashing services. The corporation owns and operates the community store and encourages case lot sales to vessels through offering 10 percent boat discounts. According to corporation staff, although vessels do tend to ship in their own supplies, or re-supply at the Trident plant, some of the vessels do make local purchases if Trident runs out of supplies or if direct shipped goods do not make it in due to adverse weather conditions.

Despite being the major landowner in the community, however, the Akutan Corporation does not derive substantial leasing income from the local seafood processor. Prior to ANCSA, a private individual outside of the community obtained ownership of the parcels of land that are the sites of the historic whaling station and the pot dock across the bay from the community, as well as the lands that are the present site of the seafood processing plant. Although according to city officials these lands changed hands in the late 1990s, they have remained in private ownership outside of the community. At present, the only land leased by the Akutan Corporation to the seafood processor is the antennae site on the hill above the processing facility. The Akutan Corporation does derive at least some income from direct or indirect fisheries-related activity through its ownership of the Bayview Hotel and the Salmonberry Inn. The Bayview Hotel, a six-room facility of which two are larger apartment-style accommodations, does see some business from such groups as marine pilots or fisheries observers, particularly when space is not available at the processing plant. The Salmonberry Inn is a former processing bunkhouse facility that is a five-room structure with four bunks per room that derives processing-related business, particularly when the processing activity ramps up in January and the processor is in need of overflow housing capacity. Another business in the community that derives income from fishery-related activity is the Roadhouse tavern. Owned by private individuals from Akutan but no longer physically resident in the community, this business regularly draws patrons from both the processing plant workforce and the community itself. Akutan Bay has also been the site of some transfer of product from at least one mothership to cargo vessels in recent years, but very little if any local business has resulted from these types of activities.

The Municipality and Revenues

In addition to benefits derived from borough taxes (including a 2 percent raw fish tax, as discussed in the introduction to the Alaska communities section of this document), the community benefits from municipal revenues deriving from a local 1 percent raw fish tax on landings made in the community. These revenues, of course, are dependent on price as well as volume of landings, which are, in turn, linked to relevant

TACs/GHLs. Table 2.3-7 presents information on Akutan municipal revenues for 1999 and 2000 obtained off of the DCED website. As is the case for other communities in the region, fish taxes have varied considerably from year to year, but more detailed information on local fish taxes cannot be presented due to confidentiality restrictions, given that there is but a single processor in the community. Clearly, however, fish taxes are a large proportion of local revenue, as processing is virtually the only industrial activity in the community. Akutan also receives revenue from Fisheries Resource Landing taxes, but these revenues are characterized as being "not very large amounts." Akutan does not have a local sales tax or property tax.

Table 2.3-7 Akutan Municipal Revenues, 1999 and 2000

Revenue Source	1999	2000
Local Operating Revenues		
Taxes	$430,095	$559,219
License/Permits	$0	$0
Service Charges	$51,488	$56,392
Enterprise	$216,493	$266,416
Other Local Revenue	$96,016	$127,420
Total Local Operating Revenues	$794,092	$1,009,447
Outside Operating Revenues		
Federal Operating	$0	$0
State Revenue Sharing	$25,969	$24,986
State Safe Communities	$7,650	$6,813
State Fish Tax Sharing	$558,663	$654,402
Other State Revenue	$50,025	$6,300
State/Federal Education Funds	$0	$0
Total Outside Revenues	$642,307	$695,038
Total Operating Revenues	**$1,436,399**	**$1,704,485**
Operating Revenue Per Capita	$3,521	$4,011
State/Federal Capital Project Revenues	$0	$0
TOTAL ALL REVENUES	**$1,436,399**	**$1,704,485**

Source: DCED Website, 2001, 2002

Unlike a number of other communities, the City of Akutan does not derive revenues from sales of water, power, wastewater, or other similar services to the seafood processing plant in the community. At the time of its construction, the plant was physically isolated from the community and thus was built as a completely self-contained facility. Although a road link to the community was subsequently established, the way services are provided to the plant has not changed.

Summary of Recent Community Fishery IFQ/Co-op Rationalization Experience and Implications for Likely Crab Rationalization Impacts

With respect to the crab fishery and related potential socioeconomic impacts to Akutan, the village is in a unique position. As a CDQ community, Akutan has the ability to access BSAI crab independent of direct participation in the fishery. As home community to a shoreplant, Akutan derives considerable fiscal benefits from inshore operations. As CDQ partners with both harvesting and processing entities with multi-species operations, they derive economic benefits from both of those sectors.

A change seen in the very recent past was the purchase of the Arctic Enterprise floating processor by Trident, and the move of the Arctic Enterprise from Beaver Inlet on Unalaska Island to Akutan Bay. The move of the Arctic Enterprise, combined with the increase in CDQ groundfish quota, means that both the industrial and village portions of the community appear to have captured more of the overall pollock quota post-AFA than was the case pre-AFA. No community level changes resulting from AFA co-ops per se are apparent. No community level impacts of halibut and sablefish IFQ programs are readily apparent either, given limited direct local resident engagement in the fishery and the fact that processing data are confidential.

In general, given the very few support sector businesses, the limited direct local engagement in most commercial fisheries (outside of the single processing plant), and the lack of municipal services provided to the fishery sectors, there is little information from previous "lessons learned" from AFA and IFQ rationalization programs to inform analysis of likely impacts of crab rationalization. For Akutan, how the local processor fares, and how the CDQ program fares, will determine how the community fares. Further, the specific potential social impacts to Akutan as a result of crab management changes depends upon how one defines the community of Akutan. If the traditional village of Akutan is the unit of analysis, the fishery would appear to have little direct impact on the day-to-day lives of individuals in the community, as long as the overall structure and revenue stays roughly the same. On the other hand, if the census/legal definition of Akutan is used, then Akutan is a community more than five times larger than its "traditional/Aleut" population, and that large margin of difference in population is associated exclusively with the onshore processing operation. Further, the fact that Akutan is an integral part of the AEB cannot be discounted, and fluctuations in fish tax-related revenue can and will have marked impact on the borough as a whole, not just the community of Akutan.

Differential Impacts of the Three Rationalization Alternatives at the Community Level

As summarized above, for Akutan the engagement in, and dependency on, the BSAI crab fishery is based primarily upon ties to local processing activity and secondarily on participation in the CDQ program. Beneficial or adverse impacts to the community of Akutan deriving from the different rationalization alternatives result from the differential outcomes for these activities.

Each of the rationalization alternatives have identical provisions regarding increased allocations to the CDQ program (inclusion of additional species and an increase in the included species set-aside from 7.5 to 10 percent of the total allocation), creation of captain's harvest quota shares (3 percent of the TAC), and a community development allocation to Adak (10 percent of the WAI golden king crab allocation). Each of these provisions are directed toward fostering beneficial community or social impacts for at least some groups or areas. Akutan, as a member of the APICDA, would directly benefit from the CDQ program increases. Impacts of the creation of captains shares and the Adak community allocation would not be significant for the community of Akutan.

Regionalization is a feature of the three-pie alternative and the IFQ alternative, but is not a part of the cooperative alternative. Regionalization is explicitly designed to create beneficial community or social impacts for at least some groups or areas. The north/south region designation was designed primarily to benefit the Pribilofs, while the west region designation in the WAI golden king crab fishery was designed primarily to benefit Adak.

Impacts of the west region creation would likely be insignificant for Akutan. Impacts of the creation of the north/south regional split in and of itself under the three-pie alternative are not likely to be significant for the community of Akutan, absent the accompanying community protection provisions discussed below. Regionalization under the IFQ alternative, which has no specific community protection provisions (save for a waiver of sea time requirements for eligible community purchase of harvest quota share, as discussed

below), would not hinder the type of processor consolidation that could have negative impacts on the community of Akutan, were local crab processing to exit the community. Under the three-pie alternative Akutan (if deemed an eligible community) would retain levels of processing activity seen during the qualifying period (due to a combination of regionalization and community protection features, as described below). Without community protection provisions, the regionalization featured under the IFQ alternative would not likely have impacts that would differ from the type of consolidation that could occur under the cooperative alternative, which has no regionalization component.

Additional community protection features of a "cooling off" period and a right of first refusal on transfer of processing quota shares are a part of the three-pie alternative (and are not a part of any other alternative). Eligible communities (those that had 3 percent of processing activity for covered species) would be assured that during the 2-year "cooling off" period processing quota would not be moved out of the community. Subsequent transfers would be subject to a right of first refusal that would allow an eligible community (through its CDQ group or another community group, if a CDQ group were not present) to obtain ownership and control over processing quota to retain local processing activity. (Due to confidentiality restrictions, it cannot be disclosed whether or not Akutan is deemed eligible for community protection provisions.)

For Akutan, if eligible, both of these features would have the potential to confer significant beneficial community and social impacts. The "cooling off" period would ensure that processing activity levels seen in the qualifying period would continue in the community, and the right of first refusal would ensure that the local CDQ group, APICDA, would be able to obtain processing quota if it were at risk for leaving the community in the future. Exercising the right of first refusal would result in a significant positive benefit to the CDQ group, and would most likely benefit the community to nearly the same degree. It is assumed that APICDA would manage any quota obtained for Akutan's benefit, but APICDA represents a constituency across a number of communities and it is possible that at least some of the benefits derived from ownership of processor quota share obtained through exercising a right of first refusal on quota share originally generated by activity in Akutan would be realized outside of Akutan.

Whether or not these community protection features provide neutral or positive benefits to the community depend on what individual operation's decision making process would have been regarding consolidation absent these provisions, which is unknowable. For example, without knowing confidential business information, it is not clear whether in the absence of community protection measures consolidation within the processing sector as a result of rationalization would increase or decrease activities in Akutan. Akutan, as a CDQ community, could not normally lose quota share to other communities within the borough without triggering the right of first refusal mechanism. Following the "cooling off" period, however, Akutan could lose local processor activity without having the right of first refusal mechanism triggered if the owner of the Akutan plant decides to shift the use of processing quota to one or more plants owned by the same entity outside of Akutan but within the south region. Whether or not this is a realistic scenario is unknown, but it is noted as a possibility.

The rationalization alternatives also differ on the ability of communities to obtain harvest quota share. Under the three-pie and IFQ alternatives, CDQ groups, or other community groups if a CDQ group is not present, in eligible communities (again, those with 3 percent or more of processing activity for covered species during the qualification period) would be able to purchase harvest quota share due to a waiver of sea time requirements that would otherwise prevent such purchases. By design, the ability to obtain harvest quota share could result in beneficial community and social impacts through communities becoming more directly engaged in the fishery.

In the case of Akutan, harvest quota shares, if purchased, would be obtained by APICDA. Given that Akutan is one of several community members of APICDA, benefits of harvest quota share ownership would be

spread across a base of multiple communities. While still clearly beneficial to Akutan, this geographic dispersion of benefits would lessen the overall impact of this feature on the community itself. Nevertheless, if exercised, this ability could result in beneficial community and social impacts through the community becoming engaged in the fishery in a way that it is not under existing conditions.

Another potentially distinguishing feature of the rationalization alternatives from a community or social impact perspective is the ability of harvesters to form co-ops under the three-pie and cooperative alternatives (but not under the IFQ alternative). For Akutan, this ability (or lack thereof) would not appear to result in significant beneficial or adverse impacts given its current nature of engagement with the fishery.

2.4 KING COVE

King Cove is located on a sand spit fronting Deer Passage and Deer Island on the south side of the Alaska Peninsula near its western tip. It is 18 miles southeast of Cold Bay and 625 miles southwest of Anchorage. Although there are numerous pre-contact sites throughout the area, the contemporary community of King Cove traces its founding to 1911 when Pacific American Fisheries built a salmon cannery on the present-day town site. The cannery operated continuously between 1911 and 1976 (also operating under the name Pacific Alaska Fisheries before it became Peter Pan Seafoods), when it was partially destroyed by fire. The adoption of the 200-mile fisheries limit spurred rebuilding. Incorporated in 1949, the City of King Cove encompasses 25.3 square miles of land and 4.5 square miles of water. It is a part of an organized borough (the AEB).

King Cove lies in the maritime climate zone with temperatures averaging 25 to 55°F, though extremes range from -9 to 76°F. Snowfall averages 52 inches, and total annual precipitation is 33 inches. Fog, common during summer, and high winds during winter, can limit accessibility.

Early settlers of King Cove were Scandinavian, Euro-American, and Aleut fishermen. Of the first 10 founding families, 5 consisted of a European father and an Aleut mother. For a number of decades, the community was primarily involved in the commercial salmon fisheries of the area, but with the decline of the salmon fishery, processing in the community has diversified into other species, including both Gulf of Alaska and Bering Sea fisheries, and both Bering Sea crab and groundfish have come to be important components of local processing operations. The shore processor in King Cove is now Peter Pan Seafoods, and the plant processes salmon, crab, and halibut, along with pollock, Pacific cod, and other groundfish. Other species, such as herring, are processed occasionally. In the not-too-distant past, some small operators conducted processing or tendering operations in and around King Cove, but currently Peter Pan is the only local operator. While cash buyers for salmon just outside city limits may be a thing of the past, Peter Pan does occasionally or seasonally operate mobile processing capacity nearby but outside of the city limits to supplement its shoreplant operations.

King Cove, like Unalaska, is incorporated as a First Class City, but unlike Unalaska is part of an organized borough. Like Unalaska, King Cove is not a CDQ community. King Cove is a historical commercial fishing community that has had processing facilities as part of the community for decades, like Unalaska, but unlike Unalaska it has had a significant residential commercial fishing fleet that delivers to the local seafood processors.

Community Demographics

King Cove is a community that traces its founding directly to commercial fishing. Unlike Unalaska, it developed around a commercial fish processing plant and did not grow from an existing traditional Aleut village. The contemporary community is ethnically heterogeneous, but much greater diversity is found among the population components associated with fish processing and support services than for those

associated with other economic activities such as fish harvesting, government, or education. While the fish processing employment force does display continuity from year to year, the local perception is that they are more transient than other King Cove residents and are not considered to be truly "local" residents as those with other occupations who do not live in company housing.

Total Population

Historically, King Cove has seen a large influx of non-resident fish tenders, seafood processing workers, fishers, and crew members each summer due to local salmon fisheries. With the increased importance of crab, followed by cod and pollock in the winter, a second employment/population peak has been seen in more recent years. Table 2.4-1 provides figures for community total population by decade from 1940 through 2000. These figures clearly include some processing workers but do not represent the numbers of persons present in the community during peak processing periods.

Table 2.4-1 King Cove Population by Decade, 1940-2000

Year	Population
1940	135
1950	162
1960	290
1970	283
1980	460
1990	451
2000	792

Source: Historical data from Alaska Department of Community and Economic Development. 2000 data from U.S. Bureau of the Census

Ethnicity

The ethnic diversity of population associated with an imported fish processing workforce is evident in Table 2.4-2. King Cove differs from other established major commercial fishing communities in the region, however, in that the percentage of its Alaska Native population component has increased at the same time as the community total population increased significantly. As shown in the table, the total population of the community grew by about 76 percent between 1990 and 2000. During this same time, the Alaska Native component of the population grew by 109 percent, increasing from 39 to 47 percent of the total population. It is likely that this represents population consolidation from smaller regional communities, as well as the natural increase of the excess of births over deaths.

Table 2.4-2 Ethnic Composition of Population King Cove, 1990 and 2000

Race/Ethnicity	1990		2000	
	N	%	N	%
White	127	28.2%	119	15.0%
African American	6	1.3%	13	1.6%
Native American/Alaskan	177	39.2%	370	46.7%
Asian/Pacific Islands*	125	27.7%	213	26.9%
Other**	16	3.5%	77	9.7%
Total	451	100%	792	100%
Hispanic***	53	11.8%	59	7.4%

* In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 1) and Asian (pop 212)
** In the 2000 census, this category was Some Other Race (pop 47) and Two or more races (pop 30).
*** "Hispanic" is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).
Source: U.S. Bureau of the Census

Group housing in the community is largely associated with the seafood processing workforce. As shown in Table 2.4-3, 42 percent of the population lived in group housing in 1990 and 38 percent of the population did so in 2000. Information on group housing and ethnicity is available only for the 1990 census and is provided in Table 2.4-4 (2000 census information for these variables is not yet available). For 1990, ethnicity varied significantly between group and non-group housing, with the non-group housing population being 67 percent Alaska Native and the group housing population being less than 1.0 percent Alaska Native. All other ethnic groups comprised larger percentages of the group housing population than of the non-group housing population, although the difference for the white population was relatively slight compared to the other groups identified, which lived predominantly (Asian or Pacific Islander) or totally (Black, Hispanic, Other Race) in group housing. Group housing in King Cove is mainly associated with the fish processing shoreplant or a seasonal floating processor.

Table 2.4-3 Group Quarters Housing Information, King Cove, 1990 and 2000

Year	Total Population	Group Quarters Population		Non-Group Quarters Population	
		Number	Percent of Total Population	Number	Percent of Total Population
1990	451	189	41.91%	262	58.09%
2000	792	299	37.75%	493	62.25%

Source: U.S. Bureau of the Census 1990 STF2, Census 2000 Summary File 1

Table 2.4-4 Ethnicity and Group Quarters Housing Information, King Cove, 1990

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	127	28.16%	57	30.16%	70	26.72%
Black	6	1.33%	6	3.17%	0	0.00%
American Indian, Eskimo, Aleut	177	39.25%	1	0.53%	176	67.18%
Asian or Pacific Islander	125	27.72%	109	57.67%	16	6.11%
Other race	16	3.55%	16	8.47%	0	0.00%
Total Population	451	100.00%	189	100.00%	262	100.00%
Hispanic origin, any race	53	11.75%	53	28.04%	0	0.00%
Total Minority Population	331	73.39%	139	73.54%	192	73.28%
Total Non-Minority Population (White Non-Hispanic)	120	26.61%	50	26.46%	70	26.72%

Source: U.S. Bureau of the Census 1990 STF2

Age and Sex

Table 2.4-5 provides information on age and the male/female ratio of King Cove's population. As shown, the community population is predominantly male, consistent with a transient male-dominated workforce, although the male-female imbalance was somewhat less in 2000 than in 1990.

Table 2.4-5 Population by Age and Sex, King Cove: 1990 and 2000

Attribute	1990		2000	
	N	%	N	%
Male	292	65%	472	60%
Female	159	35%	320	40%
Total	451	100%	792	100%
Median Age	NA		34.9 years	

Source: U.S. Bureau of the Census

King Cove school enrollment figures are displayed in Table 2.4-6. As shown, overall enrollment has been declining, with the 2002-2003 student count being less than two-thirds of the 1994-1995 figure.

Table 2.4-6 King Cove City School Enrollment, 1995-2003

Year*	Student Count
1995	162
1996	150
1997	143
1998	130
1999	133
2000	115
2001	122
2002	116
2003	103

* Year designation notes the calendar year in school year ended (e.g., 2003 refers to the 2002-2003 school year).
Source: Manual tabulation supplied by King Cove school staff, September 2002.

It is difficult to assign causality of the drop in student counts to any specific fishery conditions, but clearly the overall local fisheries economic decline has had an influence on general socioeconomic conditions in the community, and at the same time the school has had to face some very hard choices. With declining enrollments and overall funding challenges, the King Cove school has combined grades 1 and 2, as well as 3 and 4, and 5 and 6. Budget difficulties have also brought about the recent elimination of two teaching positions. As some funding is based on a student count basis, continuing declines in enrollment have meant continuing budget cuts. Beyond combination classrooms and cuts in teaching positions, the school has also restructured other services it provides, such as the lunch program, and some specialty classes and certified counseling services are not available. Given the importance of maintaining enrollments, potential employees for various positions in the community who have children are particularly valued. Despite the relatively large overall employment at the local seafood processor, only a handful of children whose families are associated with the processor attend the school, reportedly due to the high cost of living in the community, which makes it impractical to bring a family to the community on typical processing wages (other than for those in management, and even then some of the management positions are less than year-round jobs in the community). Housing is also in short supply, especially during peak processing seasons. Some families are reportedly considering sending children out to Mt. Edgecumbe school (in Sitka) as an alternative to allow them access to more academic resources. While no students from King Cove are currently reported to attend this school, several from Sand Point are, so there is regional precedent for this type of decision. While this could be academically advantageous to some students, it would pose further budgetary challenges for those remaining in the community.

Local Economy and Links to the Crab Fishery

In terms of employment, a relatively recent study concluded that more than 80 percent of King Cove's workforce is employed full time in the commercial fishery (USACE 1997). Fishing employment was followed by local government (borough and local) and then by private businesses. These results need to be interpreted in context, however, as this report ranked seafood processing after each of these other employers in terms of local employment, meaning that the vast majority of the workforce at the shoreplant were either not counted as community residents under the study methodology or that the study was conducted during an off-season time when most workers were not present in the community. Also, commercial fishermen are self-

employed, are difficult to enumerate, and thus are often not well represented in employment discussions. Thus, the 80 percent employment "dependency" of the local economy on the commercial fishing sector is probably underestimated.

The King Cove economy in general is cyclical, due largely to its strong relationship to fishing and fish processing. In recent years, because of a number of factors, including but not limited to low salmon prices, the community has experienced severe local effects from a number of fisheries-related downturns as well as non-fisheries-related events. Given that many of the factors cited for these effects are regional and cumulative in nature (low fish prices, Steller sea lion protection measures, competition from farmed fish, Area M changes, low Bering Sea crab GHLs, and other management and resource concerns), it is possible that King Cove has grown in size because of population movement from smaller regional communities in even worse economic shape. This dynamic is likely to continue but is not, however, likely to strengthen the local economy.

One recent indirect source of fisheries income in the community has been emergency relief funding. People participating in fisheries negatively affected by the imposition of measures to protect Steller sea lions and to promote the recovery of Steller sea lion populations have recently begun to receive compensation funds allocated by Congress. While this program has had positive local effects, the degree of long-term benefit remains to be seen and an overall evaluation is not possible at this time.

Subsistence continues to play an important role in the household economies for some families in the community. Joint production opportunities, where commercial gear or fishing vessels are used for subsistence pursuits, were mentioned by community residents as being important. For example, one skipper reported running to good hunting grounds following tendering activities in the Shumagin Islands, thereby saving fuel costs, while another example was given of fishermen bird hunting when out tending pots. Where stand-alone costs are unavoidable, some fishermen reported that costs were made more manageable by having several families involved to spread out the out-of-pocket expenditures. At least some individuals who are out near productive hunting grounds in the course of commercial fishing also act as designated hunters for others in the community to further reduce overall subsistence costs and increase productivity.

Harvesting

King Cove has a sizable residential fleet. Local vessels deliver primarily to the King Cove Peter Pan shoreplant, but outside vessels deliver to this plant as well. Outside vessels also provide income and employment opportunities for King Cove residents, both in terms of support service opportunities (as discussed in a subsequent section) and in terms of direct fishery participation employment, as noted below. Peter Pan representatives report that they have designed their local processing operations around serving the smaller range of the catcher vessel fleet, and the fishery around the Pribilof Islands (Schwarzmiller and Sterling, personal communication, 2002).

The local residential fleet in King Cove as a whole is primarily focused on salmon, with a secondary focus on cod. Within the overall fleet, however, there are several different types of vessels with different operational foci. According to local fishermen, there is only one vessel owned by a community resident that is greater than 58 feet. Not only is this the only locally owned vessel larger than the 58-foot-limit boats that trawls, it is the single locally owned vessel that fishes Bering Sea crab. The next largest vessels in the community are a group of 58-foot-limit seiners. Local fishermen stated that there were either six or seven of these vessels owned by local residents. According to local fishermen, this fleet is characterized by "everybody does everything," as, in addition to fishing salmon, these 58-foot vessels all trawl (or 'drag') for cod, and all pot for cod following the trawl season. (The local trawl fleet then consists of the seven or eight vessels in the community that are 58 feet or greater in length.) In addition to the versatile 58-footers, there

are numerous smaller vessels, with a number of seiners in the 42- to 44-foot range that participate in a range of fisheries, and a range of smaller vessels that have a particular focus on salmon, and drift or gill netting as gear specialties. A number of the smaller vessels also pot for cod. The smaller vessels are, of course, somewhat less flexible in their gear options and more constrained by weather and sea conditions than the 58-foot (and larger) vessels. In recent years, local salmon fishing effort has been constrained by Area M measures designed to lessen Yukon-Kuskokwim stock intercept potential by staggering openings, reducing quota, and providing smaller fishing windows.

According to local fishermen, the annual round for larger local harvest vessels in King Cove in recent years has included bottom trawling for cod starting in the third week of January and lasting through the first week of March. Following a 1-week break, the vessels switch to cod pot fishing in state waters, which ends around mid-March. Early June sees salmon activity start, which lasts through August. The autumn season has, in recent years, been a kind of "doldrums" for local activity, with "only a couple of boats" participating in the pot fishery, and the October trawling season not being promising enough to even attempt. One change that has been seen locally as of late is more vessels rigged for jigging, but these are primarily outside boats that work near the community (that stay in the area after salmon season), as it is still the case that few locals jig. According to local fishermen, three local vessels did qualify to fish pollock, but all have discontinued doing so. Also according to local fishermen, only one individual qualified for a substantial initial allocation of IFQ halibut (due to the particulars of the qualification parameters and conflicts with local fisheries during those years), but since the allocation others have acquired IFQ, so that there are now at least several local fishermen who do fish halibut in some quantity (with knowledgeable individuals estimating that three or so individuals have larger quotas than others, but that seven or eight individuals altogether have at least some reasonable amount). Also, according to local fishermen, few locals qualified for sablefish IFQ, and those who did have subsequently sold their IFQs, with one exception.

With respect to crab in particular, beyond the one locally owned relatively large vessel that fishes Bering Sea crab with a local crew (skipper plus four crew for a total of five persons on board), three other local boats (58-footers) did qualify for the Pribilof fisheries, but reportedly not one is active at present. Conditions are extremely difficult for these relatively small vessels, and one of these vessels was lost in the mid-1990s, with the loss of one life. Many more small vessels reportedly have fished the local tanner crab fishery during the years that it was open. Additionally, before seasons were changed from the fall to the winter, a time of year much less conducive to small vessels, several local boats in the 58-foot class were also reported to have fished in the Bering Sea crab fisheries but have not done so since the change a number of years ago.

There is also significant local direct participation in the Bering Sea crab fisheries on non-locally owned vessels. One outside owner keeps four Bering Sea crab vessels in King Cove most of the time, and two of these vessels are skippered by King Cove residents and have crews that are 100 percent comprised of King Cove residents (i.e., four crew in addition to the skipper), while the other two have outside skippers but local crew members. In addition to these four vessels, local fishermen estimate that about a dozen other King Cove residents have crewed aboard outside crab boats in any given season in recent years. These vessels and their crew opportunities become known to King Cove residents in a variety of ways. Most vessels spend at least some time in the community before and after crab seasons, an estimated 40 to 50 outside vessels store crab pots in the community, and others become known to locals when they act as tenders during other fisheries. Individuals who crew on these outside boats include, among others, owners of King Cove local fleet vessels. Thus, while only one locally owned vessel fishes crab in the Bering Sea, crabbing in the Bering Sea nonetheless represents a significant source of income and employment for commercial fishermen in King Cove. Additional employment from outside crab vessels being in King Cove is outlined in the support services discussion below.

The crew composition on local vessels reportedly varies widely by season. In one pattern that was reported as common for the 58-foot boats, four crew members are used in the winter (skipper/owner plus three) and three in the summer (skipper/owner plus two). Winter fishing is comprised of what could be termed 'professional' crew, while summer crew tends to be comprised of family members, including children. This, apparently, makes sense for at least two reasons. First, school-aged children are not available to crew on vessels during the school year. Second, returns have been so poor during summer salmon seasons during recent years that it has been difficult at times to get non-family crew (and, of course, hiring family crew during tough times helps household economies). Some community members volunteered the opinion that during the continuing low ebb in the local fisheries economy, family members have bumped others from crew positions and that during the winter fisheries older crew have bumped younger ones as positions became tighter and/or relatively more valuable. Others volunteered that younger crew in general are being used than in the past (to reduce costs and to get the job done when sufficient money was not available to pay crew consistent with past practices) and more children are fishing than ever before. Also, more girls are helping out than before. Systematic information has not been collected to verify or elaborate on either reported trend, but it is apparent from unsolicited comments that King Cove residents feel that declining fisheries are having an adverse impact on crew composition, although there does not appear to be unanimity regarding the particular form of that impact.

King Cove and Sand Point vessels have reportedly competed for the same fishing grounds in recent years, particularly during cod trawling near Sanak Island. Steller sea lion protection measures near Sand Point have reportedly had the effect of shifting effort into areas further to the southwest, including areas earlier targeted primarily by the King Cove fleet, more heavily concentrating effort than was the case in the past. The area to the east of the island sees significant trawl activity, and then the areas within state waters around the island see pot cod activity following the federal trawl effort. Sand Point vessels have felt the impacts related to the Steller sea lion protection measure of a 3-mile no-trawl zone around the Lookout Point haul-out as well as the 1-mile transit only zone around Clubbing Rocks, but these are relatively small exclusion areas compared to those in the Sand Point fleet's typical operating areas (e.g., Castle Rock, Bird Island, and Chernabura Island, among others).

Local vessels deliver primarily or exclusively to the processor in King Cove. While not typical, deliveries reportedly may be made in Sand Point for a number of reasons, including bad weather (the run between the two communities may take 8 to 9 hours in a typical vessel). Cod may also be delivered to Sand Point if the vessel is in the area, or salmon may be delivered there if the plant in King Cove does not want it for whatever reason. Salmon delivery patterns have changed over the years, as fishermen report in the past it was not uncommon to deliver to buyers on the grounds or to other cash buyers near the community. According to local fishermen, however, these buyers "got tired of being used as a wedge" to get higher prices when the bulk of deliveries still went to the Peter Plan shore plant. One fisherman noted that by not making sure that the case buyers had a sufficient volume of salmon, the fishermen themselves cut out other potentially competitive outlets for selling their catch. The fact that local fishermen basically have a single outlet for sales makes for some level of discomfort due to the effective degree of dependency of the fleet (and the community, for that matter) on a single company. According to at least some fishermen, the price set for some species influences the price given for other species, a situation that is markedly unfavorable to fishermen focusing on the species feeling the downward price influence. There is also some frustration among some fishermen in the community that Peter Pan directs fishing in a way that is not always favorable to local fleet interests. It is not surprising that a lack of competition would be troubling to local fishermen, and that the relationship between a fishing-dependent community and the local processor could become strained at times. Often seemingly cooperative behaviors can have a double-edged sword quality to them. For example, while the processor has in the past helped boats out financially during lean times, this has had the impact of creating greater indebtedness to the processor, which is then a cause for resentment. It is also reported that during the especially lean times in the past year or two, local vessel owners have made charges to the boat for groceries and supplies that were needed

for their households, increasing the debt load to the processor. This type of co-mingling of business and household economies is, of course, one of the potential drawbacks of small family-owned businesses, and it makes the relationship to the processor even more pervasive. The fact that the processor is foreign owned is also cause for speculation amongst fishermen regarding pricing and delivery policies.

The largest number of boats delivering to Peter Pan are indeed relatively small in size and relatively local to King Cove. While focused primarily on salmon, most of these boats may also deliver other fish, such as cod and halibut. Salmon markets have been especially poor for local fishermen recently. Price disputes are not uncommon in this context; in a recent year, a price was not negotiated with area processors until a month into the season, so that fishermen and processors missed the peak of the run. Both the processors and the harvesters claim to have lost money on the price paid for salmon that year. (With seemingly chronically depressed salmon prices in general, local fishermen have noted with some irony that disaster relief funding was made available to opilio fishermen in short order following a couple of very bad years.) Local plant personnel estimate that 20 to 25 percent of the cod delivered to the plant comes from Lower 48 boats, with the balance coming from King Cove and Sand Point vessels.

Boats that deliver BSAI pollock in King Cove are all non-local, either from Kodiak or the Pacific Northwest (mainly Seattle). According to senior plant staff, in the not-too-distant past, virtually all of the Gulf of Alaska pollock delivered at the plant was from King Cove or Sand Point vessels; however, more recently, vessels from outside the immediate region have made up nearly half of local Gulf pollock deliveries.

With one exception, BSAI crab boats that deliver to the local plant are from outside the community, typically from Kodiak or the Pacific Northwest. Some of these Pacific Northwest crab boats are moored in King Cove or other Alaskan ports, and there is interest in the expansion of local harbor facilities and moorage in a number of local communities (Northern Economics 1995, 1997; USACE 1997). King Cove recently expanded and improved its large boat harbor, with the dedication of the new facility taking place in September 2002. Some of these crab boats will participate in other fisheries (fishing for cod and halibut, tendering for salmon and herring), although most fish only crab for Peter Pan and tender in other fisheries as their primary revenue sources. Some will fish crab for Peter Pan and then go fish for brown crab. Peter Pan representatives estimated that about 30 crab boats would deliver to them in 2002, but this could vary as more crabbers have delivered to them in the past. It is expected that because of low quotas, most, if not all, BSAI crab fisheries will be "one trip" fisheries, with only time enough for each crab boat to fill up once. The Peter Pan crab fleet is composed mostly of independent catcher vessels, with a mixture of sizes and with owners from a variety of communities. Local (King Cove and Sand Point) crab boats tend to cluster at the lower end of the size range of this fleet, whereas Kodiak and Pacific Northwest crab boats are larger. With one exception, no local boats participate in the Dutch Harbor crab fisheries but rather concentrate on more local (Gulf of Alaska) and Pribilof area crab fisheries. The King Cove plant does take deliveries from vessels fishing in the North Region area, but, according to plant management, for vessels to make that long of a run the processor needs to give incentives to do so, and it only makes economic sense to offer these types of incentives to the larger vessels.

Harvest value and volume figures for crab vessels specifically owned by residents of King Cove cannot be discussed because the vessels are too few in number to meet confidentiality requirements. Those from Sand Point are similarly too few to discuss by community, but combining data from the two communities resolves this problem, and the two fleets do share many characteristics. For the period 1991-2000 (the most recent and longest time series information available), the number of vessels fishing from these two communities averaged seven vessels for Bristol Bay Red king crab, five vessels for opilio crab, six vessels for tanner crab, nine vessels for Pribilof red or blue king crab, and less than one vessel for Dutch Harbor brown crab. Much of this crab would probably have been delivered to the Peter Pan processing plant in King Cove, although for some of the more distant fisheries, deliveries would be made to other plants (shore or floating) that may

or may not be operated by Peter Pan. For the 1991-2000 period, 30 different vessels owned by residents of the two communities participated in the BSAI crab fisheries, and most (17, with 2 unknown) were 58 feet or less in length. These are multi-fishery/salmon boats and are limited in the BSAI crab fisheries by weather and sea conditions. Still, for these vessels BSAI crab contributed 68 percent of the value of their catch, with opilio as the most significant single fishery. For the combined fleet of those communities as a whole, BSAI crab contributes only 18 percent of the total value of the harvest. Larger vessels are clearly preferable for BSAI fisheries, however, as of the seven vessels from these communities active in the fisheries in 2000, five were over 58 feet in length. Many of the smaller vessels have dropped out of the BSAI fisheries, and most if not all more recent entrants are over 58 feet in length.

Processing

The King Cove plant was built around the local salmon fisheries, and like the common name in the community suggests, the plant was and still is a "cannery." In recent years, however, canned salmon has declined in importance as a product for a variety of reasons including, according to plant staff, changing tastes that correspond to changing demographics in the country (with the individuals who favor canned salmon aging and declining as a percentage of the overall population). Despite this decline, however, the King Cove plant still produces more canned salmon than the entire country of Canada, according to company sources. In addition to canned salmon, the facility produces a variety of fresh and frozen salmon products. The King Cove plant also processes a good amount of crab and has developed groundfish processing capability, with Pacific cod and pollock as the predominant species. Substantial amounts of cod are supplied from both the Gulf of Alaska and the BSAI regions. This plant also processes halibut on a regular basis, and herring and other species less often.

Through time, the King Cove plant has maintained a diversity of processing, with interspecies dynamics being somewhat fluid. Over the years the distribution and peak of employment effort at the plant have been changed with both stock changes and management changes, such as the effects of the AFA. Detailed production figures, however, cannot be disclosed because of confidentiality restrictions. In general, it can be stated that King Cove is somewhat unique among the four key regional groundfish ports as it is relatively more dependent upon Pacific cod than pollock, among the various groundfish species landed. The relative dependence of the plants on different species has varied over time and with stock fluctuations. For instance, 1993 was clearly a very good year for salmon, while 1996 and 1997 were both poor salmon years. While changes from 1999 to 2000 cannot be definitively stated to be other than statistical fluctuations, it is interesting to note that for King Cove the poundage processed and percentage of total plant dollars for crab decreased, while groundfish increased somewhat. Crab stocks (and quotas) have been declining. Gulf of Alaska pollock is obtained from the local small boat fleet as well as from a small number of outside boats, but BSAI pollock is obtained exclusively from larger-capacity nonresident boats.

Historically, the Peter Pan plant was founded as a salmon plant and added crab as a strong secondary species, then halibut, and cod and pollock. Of these species, only cod and pollock have strong markets at present for the King Cove Peter Pan plant. Halibut was cited as an example of the dislocations that can result from a rationalization program. Peter Pan was only one of several processors who claimed that the institution of halibut IFQs reduced their profit margin on halibut to such a degree that they currently process very little halibut. This is the stated condition for King Cove in particular.

The current (as of 2002) annual cycle of the plant begins with the fixed gear opening on January 1, with the first deliveries of pot cod arriving in the community between January 5 and 10. Crab related activity starts somewhere around January 6, as vessels that have been in the community gear up while those that have been moored outside begin to arrive, and people come to town to meet up with vessels. January 13 is usually a busy day with tank inspections, then the vessels leave for the January 15 opilio opening. Local deliveries are seen

around January 21, and with the short seasons, vessels may make only one or two deliveries total. If the fishing is "scratchy," the season extends to 3 weeks or so. Following the crab season, individuals and vessels tend to leave the community quickly, unless they fish IFQs. Around January 20, trawl seasons open up for Bering Sea pollock and cod, as well as for Western Gulf of Alaska cod and pollock. The King Cove plant tends to 'hold off' deliveries of Bering Sea pollock until the Gulf fisheries can be serviced, something that co-op conditions facilitate, to allow the plant to optimize their work on the other fisheries. Depending on season particulars, early season deliveries of Bering Sea cod may be taken, even if pollock is not, but boats may wait for fish to school up at the end of January. Western Gulf pollock activity may only last about a week, while Bering Sea pollock may last through the end of February. Pollock is a relatively new species for the plant and, as a result, the plant has relatively little pollock activity compared to large plants in, for example, Akutan and Unalaska (due to lack of qualifying history when the management of that fishery changed under the AFA). After trawl season in the Gulf there is a 1-week stand-down, followed by the state cod fixed gear fishery, with most local activity related to that fishery lasting about 3 weeks to the end of March or so. The 15 percent hold-back for jig gear in this fishery, if scratchy, may last until the first week of May. There are reportedly few halibut IFQ landings (or sablefish IFQ landings either) reportedly due to lack of ability to pay the prices given at ports more accessible to the road system and better capabilities to quickly move fresh product. Some flatfish are also processed at the plant, but there are apparently challenges in that market as well.

Summer activity at the plant begins early in June with the Bering Sea C/D pollock seasons and the beginning of salmon season. July is relatively slow for salmon, but August typically picks up again with the pink salmon runs, and August is also the time of C season in the Gulf of Alaska. Scheduling flexibility brought about by AFA co-op conditions also allows the plant to maintain at least some activity to help tide over the slow times in mid-summer. The summer also sees Peter Pan tendering salmon out of Kodiak and other areas, and balancing operations and adjusting supply to capacity in King Cove and Valdez. In some years, there is local activity related to the July 15 herring (for bait or food) opening, but Peter Pan did not participate in this fishery in 2002. On September 1, the last 40 percent of cod is released, but there has been little activity in King Cove related to this as it has been scratch as of late. Crab activity resumes in the community around October 6 or 7 in anticipation of the October 15 Bristol Bay red king crab opening. This has lately been a one-delivery fishing season for King Cove, with the season lasting from 3 to 5 days. October 1 sees D season pollock, and IFQ activity lasts through mid-November. Adak red king crab activities take place around the 2- to 3-day fishery that starts October 25, but this keeps very few processors active. From mid-November to January 1, activity at the plant is confined to maintenance operations.

Employment levels at the plant vary considerably by season. According to information obtained from the plant, over the last 5 years (1998-2002), employment peaks were seen from late January through March, with most weeks at or near 500 total employees on site. Secondary peaks of approximately 400 or somewhat more employees were common from mid-June through mid-August, but this was more variable, with some weeks in some years hitting 500 or more, and some weeks in other years being considerably less than 400 during this same period. On-site employee counts drop to about 30 persons during the end of year maintenance work. Employee counts between the winter and summer busy seasons vary considerably from week to week and year to year, from the mid-100s up to near peak levels, depending on the variability of activity associated with particular species fisheries in any given year.

Individual worker earnings have been down in recent years with the decline of crab stocks and the poor conditions in a number of other fisheries. According to plant personnel, the number of workers has not changed appreciably, because "you still have to bulk up" for the busy seasons, but workers are not getting the type of overtime hours that were common only a few years ago. In addition to direct processing employees and physical plant staff, the core management and administrative staff at the plant include desk/clerical, fisherman's accounting, payroll, office manager, plant manager, production manager, housing, and chief engineer positions.

Peter Pan also has a "support station" in Sand Point, consisting of a dock, a bunkhouse, and accounting support for fishermen. Services provided at this site include facilitating deckhand payments, stock room services, pot storage, and tendering. Peter Pan also runs a support station in False Pass offering the same services as in Sand Point, with the additional service of fuel sales.

Peter Pan owns most of the land in and around its immediate complex in King Cove, and housing is provided for workers on site. Peter Pan also leases an adjacent apartment building from the King Cove Corporation (the King Cove village ANCSA corporation), and at peak times rents space in the King Cove Corporation hotel some distance away from the worksite. The vast majority of workers at the plant are transient with respect to establishing a true residence in King Cove, but according to senior plant staff two or three families have established roots in the community. In general, however, it is reportedly hard to establish a family in the community or move a family to the community on processing wages (except for quite senior positions).

In terms of integration with the community economic and social context at large, the plant at King Cove is quite different from those in Unalaska/Dutch Harbor. As noted, compared to King Cove, the growth of commercial seafood processing in Unalaska/Dutch Harbor is a relatively recent development (at least in terms of continuity of operations at specific facilities). The King Cove processor has longstanding relationships with the local catcher fleet, which, in turn, is the source of most employment in the community (among permanent residents). This is a sharp contrast to Unalaska. Unalaska is the site of multiple shoreplants and has a much more "industrial" fishery than does King Cove. This is not a consistent pattern, however, as the Bering Sea pollock delivered to King Cove is not fished by the local small boat fleet, and Bering Sea crab delivered locally is largely delivered by outside boats (but with significant local involvement, as outlined previously). Despite the long-term stable relationship between the community of King Cove and its single processor, however, the direct ties to the wider social context of the community are less evident in King Cove than in Unalaska where, for example, senior processor personnel serve on the city council and numerous other boards and community committees. Certainly the fact that there is but a single processor in the community influences processor, local fleet, and community relations, but exactly how this serves to structure or shape relationships is a complex matter.

Changes associated with the recent restructuring of the groundfish fishery under AFA have been felt in King Cove. The processor in King Cove is qualified as an AFA (BSAI pollock) processor and benefits from a Co-op Processor Endorsement, as five catcher vessels did deliver at least 80 percent of their inshore pollock to the King Cove plant during the AFA-qualifying period (while delivering most of their pollock offshore to a mothership affiliated with the same company as the shoreplant – a very different situation than most other qualifying entities). The King Cove plant is relatively well located to process BSAI pollock and is somewhat on the periphery of Gulf of Alaska pollock. Pollock product mix varies somewhat from other AFA plants, with surimi being a relatively recent addition and primarily confined under present market conditions, according to senior plant staff, to utilization of pollock that would otherwise produce less than optimum fillets.

The annual processing cycles for King Cove processors have changed very recently, and this is in good part attributable to AFA and other recent fisheries management changes. The Peter Pan Seafoods 2000 Co-op Report indicates that the King Cove plant took delivery of Bering Sea pollock on 4 days in February, 5 days in March, 2 days in April, 10 days in September, and 5 days in October. The 2001 draft Co-op Report indicates eight vessels delivered BSAI pollock to King Cove on 17 days in February, 6 days in March, 11 days in June, 14 days in July, 13 days in August, and 9 days in September. This reflected, in some sense, an optimal plant utilization strategy given the Peter Pan pollock cooperative's pollock allocation. The change in this pattern for 2001 was probably due primarily to management measures instituted to foster the recovery of Steller sea lion populations. The BSAI pollock quota for 2001 was increased over that of 2000, but not enough to account for the increase in the number of processing days spread over a greater period of time. Additionally, BSAI Pacific cod may have been negatively affected by AFA sideboard measures and its

current production is less than in the past and has been declining. The Peter Pan Seafoods 2000 Co-op Report notes that the cod sideboard allocations of the five vessels delivering pollock to the King Cove plant were allocated to the mothership sector, and they report a reduction in their tendering needs for Pacific cod.

Crab deliveries and processing were much reduced in 2000 from 1999, due primarily to a reduction in quotas related to reduced stocks. AFA sideboard caps on BSAI crab have limited the amount of such crab that can be processed by the King Cove plant. This has required that the processor charter an uncapped floater (otherwise employed during crabbing in the Pribilofs) to process additional crab while moored near King Cove. Otherwise, production in King Cove would be essentially limited to the amount processed in the past (as adjusted for other allocations). Peter Pan representatives report that this in fact represents a production level lower than in the past and would require that they limit the number of boats from which they buy crab. To service these boats and maintain market share, Peter Pan has thus taken the step of chartering the Steller Sea (owned by an affiliated entity) as a crab processor. Given the present low crab stocks and associated low GHLs, Peter Pan representatives report that they could physically process all the crab they currently harvest in the King Cove shoreplant, but that this would not be equitable to the Pribilofs (and may not be possible under the AFA crab caps). Certainly the use of the Steller Sea in the Pribilofs helps maintain/increase Peter Pan's market share in the crab fisheries in that area.

According to local plant management, the Steller Sea typically comes to the King Cove area to "help clean up" at the end of crab season. When the Steller Sea does process locally, it does so outside of the city limits of King Cove. By doing, so revenues from fish taxes do not accrue to the City of King Cove but are paid to the Aleutians East Borough (and, of course, the State of Alaska). According to plant personnel, this is important to stay competitive in price with Unalaska/Dutch Harbor (which has only a local 2 percent fish tax and no borough tax), and Kodiak (which has no local fish tax [although the local 1.5 percent severance tax is essentially a functional equivalent]), as fish taxes show up as deductions from the price paid to fishermen. While floating processors used to come into King Cove itself, apparently none have done so for quite a number of years. When not on crab in the Pribilofs or King Cove, the Steller Sea is out on the fishing grounds following the fleet in a variety of fisheries, including salmon in Bristol Bay, Sand Point, and Squaw Harbor, among others, and ranging from the Ketchikan area in Southeast Alaska to Dutch Harbor to the west along the Aleutian Chain.

Support Services

When viewed from one perspective, King Cove has little in the way of a fisheries support service sector, and in this way the community, though a major processing port, differs markedly from Unalaska or Kodiak. For example, in King Cove, the lone shoreplant has historically provided a variety of fleet support services that the plants in Unalaska no longer have to provide with the development of a support sector. From another perspective, however, outside of public works, tribal, and school employment, there is arguably little in the way of local employment that is not - in one way or another - directly linked back to supporting the fishing sector of the economy.

Beyond scale issues, the King Cove support services economic sector is also quite different from that of Unalaska as it does not have enterprises related to the groundfish offshore sector (nor does the community otherwise derive direct revenues from the offshore sector). The level of transportation services to the community is clearly fishery linked. Despite relative hard times in the different fishery subsectors, barge services to the community still continue on a regular basis. With a general decline in fisheries-related trade, however, connecting jet service through Cold Bay has been reduced, meaning that freight is more commonly bumped in favor of passengers than in the past.

Direct fishery support services that do exist in King Cove include marine fuel sales, crab pot hauling, crab pot storage, mechanical services, welding, taxi services, vessel supply, vessel watch, bar and restaurant trade, and a range of services provided by the King Cove Corporation. Additionally, the local tribal entity, the Agdaagux Tribe, provides a range of services to the community and is involved in infrastructure projects.

Marine fuel services in the community are provided by Peter Pan Seafoods. Peter Pan is also the only supplier for everyday vehicle fuel needs in the community. The City of King Cove is presently (2002) in the process of building a marine fuel delivery capability in the harbor, with construction underway of a pipeline to access a newly built fuel tank farm recently constructed on uplands near the harbor. The plans call for the fuel tank farm/delivery system to include both city and King Cove Corporation lands. There is also a one-person private fuel delivery service business in the community that supplies residences and buildings by truck. This service purchases the fuel locally and charges a mark-up per gallon to cover the cost of service and delivery. While this business itself is less directly linked to supporting the fishing sector of the economy than some others, like a number of the other support type of businesses in the community, the owner of this business also commercially fishes and in this way fishing directly ties back into the household economy of the owners of even seemingly stand-alone business enterprises.

Crab pot hauling in King Cove is provided by a family business (Mack Trucking). Although there were some others competing in the market in the early years of the business, it has been the only such business in the community for many years. Originally a single-person operation, this enterprise is run by the son of the founder. Different equipment configurations have been tried over the years, including a boom and truck system that could handle two pots per haul, to the present system where bobcats shift the pots and a flatbed with a four-pot capacity makes the hauls. With the present configuration up to 1,000 pots per day can be handled. This business did experience an initial decline in business when pot storage opportunities opened up in False Pass and St. Paul, but reportedly business has subsequently returned to normal for a number of reasons, including being more convenient than St. Paul due to occasional inability to access stored gear there in some conditions. One person affiliated with the business estimated that approximately 7,000 to 9,000 pots are moved and stored during a typical crab season. When pots are going out at the start of a crab season the load can be handled by one employee, as vessel crews are working on the pots as they arrive at the dock and so have a limitation on how fast they can be loaded on board. At the end of the season, however, a couple of extra drivers are needed to handle the flow from vessels going into storage all at once. Pots for cod fishing are also hauled by the business, but with a 60-pot limit per vessel and only 20 or so vessels fishing locally, this fishery involves roughly 1,200 pots total. In addition to pot hauling, the business also hauls seine gear, and provides truck and skiff rental services.

Crab pots are stored on lands owned by King Cove Corporation, City of King Cove, and Peter Pan. The King Cove Corporation estimates that it has about 50 percent of the local lands used for pot storage. The City of King Cove has a modest pot storage area, with the balance of storage taking place on Peter Pan-owned land. Peter Pan provides storage space as a free of charge service to vessels that deliver to the plant, while the Corporation and the City use pot storage as a revenue source, charging 25 cents per pot per month storage fees. As two private sector entities, the Corporation has an incentive relationship with Mack Trucking that is somewhat different from the relationship between the City and the company, but one common service provided by Mack Trucking is that they keep storage records for both the Corporation and the City and handle all of the invoicing for the two entities. All pots move across city-owned "T" and ferry docks (even those from Peter Pan-affiliated vessels that are going to be stored on Peter Pan property), and the City charges a $1.50 per pot fee for every pot that crosses the dock (in either direction).

Marine mechanical services are provided in King Cove by a one-man operation (J&L Marine Repair), supplemented with temporary local hires for larger jobs. Housing for this individual is supplied through Peter Pan, and at present repairs are made either at the Peter Pan facilities or aboard vessels themselves, with tools

stored at Peter Pan or in a company vehicle, as there is no shop facility in the community. During the peak of crab season, this person reportedly essentially works "24/7," and is otherwise typically present in the community except for the month of December. This individual is a generalist, and in addition to handling mechanical repairs, he also does some hydraulic work (as do Peter Pan engineers/mechanics) as well as some electrical work. Peter Pan typically has one electrician on site, but outside of these individuals, there are no vessel systems support personnel in King Cove. Some speciality personnel, such as radar technicians, come through the community on a very infrequent basis. A related support business in the community is marine filter sales, a business that is as a sort of partnership between the marine mechanic and another business person in the community. While this was originally part of the mechanic's business per se, it became too large of a volume of sales to adequately handle along with the main mechanical business. This business sells oil, fuel, and air filters to the vessels, along with a few other products of secondary importance, such as engine cleaner. At present (2002) the business does not have a permanent building but is in the process of building a shop near the harbor that would house both the mechanic's operation and the filter/support business. This would potentially allow for some expansion of the business through having predictable hours in a known location (at present customers call for service over the radio). The managing partner of the filter business estimates that crab vessels account for about 75 percent of filter sales, while the remaining 25 percent goes to the local fleet. Whereas crab vessels tend to order filters in case lots (for their main and auxiliary engines and generators), local small vessel owners tend to pick up individual filters from stock on hand.

There are two one-main welding businesses in the community that do marine work as well. One of these is run as a secondary business by a fisherman, and the other is a full-time business run by a man who recently stopped fishing. Both businesses derive work from the fishing fleet, including crabbers.

Taxi services are another type of business that derives benefit from local fisheries activity. While there was only one active taxi service at the time of fieldwork for this project (September 2002), there are reportedly at least a couple of other individuals who have taxi licenses and run their services during the higher demand periods associated with seasonal fishing activities.

Vessel supply-related business is a significant part of the local support service economy. At present (2002), there are four stores in the community. Two of these are larger, more general purpose stores and two are speciality operations. Of the two smaller stores, one is run by Peter Pan on its premises and, while it is open to the public, it essentially functions as a convenience store for its employees, stocking a variety of food items as well as a limited selection of clothing, plus boots, rain gear, and other processing work-related items. The other small store, Ram's General Store, is open evenings and weekends and essentially functions as a convenience store for the two residential neighborhoods built some distance away from the main portion of the community in the early 1980s. The two large stores, Gould's and Alaska Commercial, carry a range of goods and derive a substantial portion of their business from fishing, though they reportedly vary in the nature and level of engagement with the fishery.

Gould's store is a family-owned business that was started in King Cove in 1939, moved into its present building in 1993, and is currently (2002) run by a son of the founder. In addition to functioning as a general store to the community, Gould's also derives business from grocery sales to fishing vessels (and includes delivery to the vessel as a free service) as well as the sales of various supplies. Gould's also has the community's sole liquor store and sells a range of household furnishings and appliances. The owner of the store estimates that between 20 and 30 percent of the overall business is attributable to sales to commercial fishing vessels, with the balance being made up of sales to the local community as a whole. Of the overall vessel sales, an estimated 30 to 35 percent is attributable to crab vessels in particular. When vessels spend more time in the community with tank inspections or even in the event of a strike, the upturn in business is seen over a longer period of time.

Gould's store is located near the Peter Pan Seafoods processing plant, and processing workers do constitute a portion of the business on a daily basis, with popular items reported as ethnic foods, soups, videos, CDs, tapes, and local souvenir clothing, along with personal care items. According to store management, with a tough local economic climate, residents are even more likely than normal to spend money outside of the community and ship goods in, with the impact that tough times bring an even loss in store business than may otherwise be expected as there are both absolute and market share business declines. Employment at the store is currently at 8 or 9 employees, including 3 part-time positions, down from a total of 14 to 15 employees in earlier years. When things get busier during peak fishing seasons, the store strategy is to attempt to use management and administrative staff to help with sales rather than to try to hire and train temporary staff. According to the store owner, the business climate in King Cove is a challenging one, and quite a few businesses have opened and closed in the community over the years. When fishing seasons are good, the store receives larger fishing-related orders, but during leaner seasons reportedly proportionally more palletized goods come in from Seattle for delivery to the vessels. The store also reports that during lean times there are greater problems collecting accounts receivable from the community as outside bills that are perceived to have a greater impact on credit ratings tend to be paid more quickly. Goods typically come in by barge, with Western Pioneer and Coastal Transportation each serving the community once per week. (Peter Pan also moves cargo in and out of the community but typically does not provide shipping services to other businesses.)

The Alaska Commercial Company (commonly called the "AC" store) is a relatively new entrant into the community, having taken over the lease on a King Cove Corporation building previously used as a ship supply type of store by Western Pioneer. Prior to transition to the AC store, Western Pioneer did transition from a more strictly supply store toward selling case lot groceries (which required rezoning from industrial to commercial). Perhaps because of its location closer to the harbor, this store is reported to derive a larger proportion of their business from outside vessels. In terms of the relative importance of commercial fishing to the business base of operation, the manager of this store stated that outside vessels, primarily crab vessels, accounted for roughly 40 percent of the overall business of the store. Things have changed with shorter crab seasons, however, as it is reportedly easier to resupply out of Seattle for very short seasons than it is for longer ones. Crew on these vessels also apparently purchase more "nice to have" and not just "need to have" items during good seasons, and less turnover of crews means a lesser volume of sales as well. Shorter and less lucrative seasons also reportedly translate into a lower volume of sales related to sprucing up vessels, as all but the most essential investments are deferred (meaning drop in sales is greater than the linear drop in activity). There has been some increase in non-crab transient vessels "prospecting" local fisheries during difficult times, but this has reportedly resulted in little extra business. Local commercial fishing accounts for another large segment of the business, but it is not possible to differentiate this part of the business from the general residential community trade, due to the family nature of most local catcher vessel operations. Unlike some communities, processing personnel in King Cove are reported to constitute a significant portion of local store sales, accounting for roughly 40 percent of non-food sales, with music sales comprising a marked proportion of these sales, but items such as rugs to personalize company living quarters, and hot plates and other small appliances being important as well. Some items, such as sportfishing gear, reportedly would not be stocked if not for processing personnel. Sales of goods to processing workers for shipment to families overseas, such as hardware, clothing, and money orders are also reported to be common. With processing personnel seasonal movements, this is a constant source of new business.

In terms of an annual cycle, the AC store manager reports that the January crab openings represent a "big push" for the store and provide a bit of an operating cushion for much of the rest of the year, which has become all the more important in the face of other fishery declines. After crab season there is a low, with another pickup seen related to cod activity in March and April. Salmon-related business brings a number of peaks and valleys during the summer months, but fall fishing-related business has been very slow in recent years until the crabbers come again in October for a couple of weeks. Following crab, business remains slow

for the balance of the year. Employment at the store has been around seven individuals, with around five during slow periods. With salmon season being very slow, the typical additional summer hires have not been made lately. The store manager reports that particularly because of the recent low salmon returns, there has been more welfare-related business than in any of the previous 5 years with which he has direct experience, with only one case 5 years ago, and an estimated 30 to 40 at present.

There is also some employment related to vessel watch services, which in turn ties back to moorage capacity in the community. Boat owners from outside the community who moor their vessels in the harbor will hire local individuals to act as watchmen and to handle any emergencies that may arise. Fees for this service are reported to be in the $25 to $30 per day range. For crab vessels, it is more common for outside vessels to be moored in the community in the relatively short interval between the fall and winter seasons than the much longer stretch between the winter and fall seasons. A couple of knowledgeable individuals estimated a typical level of local employment to be three or four boat watchmen who were responsible for five or six boats each.

There are very few other miscellaneous income sources in the community related to vessel services. An example of this very small scale type of service is the individual in the community who on occasion provides diving services to vessels to check out hulls and clear props or the like. Some vessel owners also derive some income chartering their vessels for runs to Cold Bay or other locations to move crew or parts when weather closes down air transportation or other logistical arrangements are simply less efficient.

There are two bars in the community, and each derives a substantial portion of its business from fishing-related patronage, but they vary in the nature of their engagement with that sector. Under previous ownership, the bar near the harbor (MC's) opened only during crab season, and derived its yearly income from crab season-related activity. Still characterized as being somewhat of a "fisherman's bar" this business is attempting to change that characterization and offers free shuttle service from the processor to the bar to help attract Peter Pan employees as clientele. This bar still sees marked crab season-related activity peaks during the October/November and January/February periods and the owner estimates that at present crab fishing-related sales make up roughly 30 percent of the overall yearly sales. Like some of the other support businesses in the community (particularly the stores), MC's does even more business when the crab fleet stay in the community is extended by a strike. During one recent strike year there were an estimated 90+ vessels in the harbor for a 2-week period. Like a number of other owners of businesses in the community that are dependent to a substantial degree on the crab fishery, however, the owner of MC's has other direct employment in the community, along with interest in another fishing-related business - though fishing-related business is a mainstay, the vagaries of commercial fishing conditions in recent years do not make for a necessarily solid or exclusive base for many household economies.

The second bar in the community is run by the King Cove Corporation, and is located in the Corporation building that also houses the hotel, Corporation offices, and a restaurant. The Corporation bar has not been as closely associated with any particular harvest activity as the other bar but apparently draws more clientele from the nearby processing plant, and it too benefits from increased activity related to the various annual peaks in harvest activities that bring an influx of personnel (and money) to the community. Crab-related business does bring marked pulses of business to the bar for at least "a couple of nights" around the seasons, but this can extend if vessels have to wait in the community to unload at the processor.

There are also a limited number of restaurants in the community. At the time of fieldwork (September 2002), a Chinese restaurant was open in the King Cove Corporation building, but others were not. At other times, there is a pizza and subs restaurant in the community (Town Pizza), and a bakery/burger/ice cream shop (A&E's) some distance out of town on the road to the airport. The latter business caters more to local residents with access to vehicles than to processing workers or outside fishermen on foot.

Beyond the bar and restaurant trade, the King Cove Corporation is also involved in a range of enterprises that act as fishery support services. These include such things as land leases to Peter Pan, crab pot storage, and involvement with the new marine fuel business as mentioned previously, along with running a 12-room hotel that accommodates processor personnel in peak/overflow situations and other fisheries-related guests. According to Corporation officials, rooms are often in demand during salmon, pollock, and cod seasons, and this demand can account for rentals of from 6 to 9 or 10 of the total of a dozen rooms in the facility for significant periods of time. (Other major block demands of the hotel include school and Borough government-related activities.) The Corporation also built and is leasing out the building occupied by the AC store, and the community Post Office building. The Corporation also owns the Russell Creek hatchery facilities, although this is inactive at present. A sand and gravel lease is another local activity, and the land that has been utilized under this lease also provides some of the Corporation's crab pot storage capacity. The Corporation provides employment for 8 or 9 local residents.

The Agdaagux Tribe provides 6-full time and 2-part time employment positions in King Cove on an ongoing basis and is involved in providing a variety of social services to the community through the administration of a variety of Bureau of Indian Affairs (BIA) and other programs, encompassing such diverse areas as child and elderly welfare programs, general and energy assistance, and alcohol and domestic violence programs. Tribal staff reports that with a decline in the economic vitality of local commercial fishing, there has been a marked increase in demand for a range of their social services. The tribe (and others in the region) is also involved in community clinic ownership and service provision. While many of these services are utilized primarily by long-term residents of the community, the clinic also sees service demand from the outside commercial fishing fleet. The tribe is also involved in building community infrastructure through the administration of BIA road building funds and is in the process of improving and paving the road system out to the airport, which will better support local transportation needs (that will service fishing and other local economic activities, as well as serve general residential transportation needs). A reported advantage of running the road funding through the BIA rather than other entities is more effective more local hire provisions, and this has resulted in employment for about a dozen local residents.

Between the fishing harvest and processing sector employment noted in earlier sections, and the support service sector employment noted in this section, there were no other private sector type of jobs in the community listed by multiple community contacts from all sectors. The King Cove private sector economy is very limited (and public sector jobs, though still a mainstay of local employment, have reportedly declined overall in recent years). While the local economy is, in part, constrained by relative isolation on the transportation system, a number of individuals in the community ventured the opinion that the transportation project that would link King Cove to Cold Bay offers hope of new economic opportunities. With construction scheduled to begin in 2003, it is currently conceived of as a combination road and hovercraft link, but it could eventually become an all-road system. In either configuration, it would eliminate the transportation bottleneck caused by the not infrequent closure of King Cove's airport due to adverse flying conditions, a circumstance that can last for several days. A surface transportation link to the Cold Bay airport, one of the state's major airport facilities and far less subject to closure due to adverse weather conditions, would provide a much more reliable means of getting vessel crews in and out of the community (maximizing the utility of the newly constructed harbor) as well as processing crews, and it could also potentially provide a viable avenue for the transportation of fresh product from the community (but this may be limited in actuality by project impact mitigation measures that could restrict such commerce).

While not a support business, the City of King Cove is in the process of converting the old clinic building (a city-owned structure on Peter Pan land) to a community resource facility that would house a workout area (furnished largely with donated equipment), a resource room with internet connections, an artist's store, a second-hand store, and a elder's resource room that would house local historical resources. This facility would function both as a community-related and fishery-related transient population resource. In recent years

there has reportedly been less community interaction with outside fishery and processing workers in city sponsored recreational sports events than in years past, but 3-on-3 basketball competitions still draw participants from all sectors of the community.

The Municipality and Revenues

As discussed in the introduction to the Alaska communities section, revenues derived from commercial fisheries landings in King Cove are integral to the overall economy of the AEB. In this section, community rather than borough revenues are presented. King Cove municipal revenues for 1999 and 2000 as summarized on the DCED website are shown in Table 2.4-7. Because the community has only one processor, detailed information on local fish taxes obtained from the community is not presented here due to confidentiality concerns.[18] Local taxes in King Cove consist of a 3 percent general tax on sales, and a 2 percent city raw fish tax (in addition to the 2 percent borough raw fish tax; combined with the 1 percent Alaska seafood marketing institute tax, fish landed in King Cove are taxed at combined, local, borough, and state total rate of 5 percent). According to the City Manager, for the last decade or so about 60 to 70 percent of the City's general fund budget has come from sales taxes on an annual basis. Of the sales tax totals, in a typical year roughly two-thirds derive from fish taxes, and one-third derives from general sales taxes. Until recently, fish taxes split out approximately one-third from salmon, one-third from crab, and one-third from groundfish, but in the last few years, the proportion attributable to salmon has declined somewhat, while the portion associated with groundfish has increased.

Table 2.4-7 King Cove Municipal Revenues, 1999 and 2000

Revenue Source	1999	2000
Local Operating Revenues		
Taxes	$1,011,597	$1,165,613
License/Permits	$2,558	$400
Service Charges	$353,608	$352,848
Enterprise	$882,537	$934,065
Other Local Revenue	$73,020	$124,881
Total Local Operating Revenues	$2,323,320	$2,577,807
Outside Operating Revenues		
Federal Operating	$12,685	$14,518
State Revenue Sharing	$29,546	$26,857
State Safe Communities	$23,209	$14,034
State Fish Tax Sharing	$257,555	$313,467
Other State Revenue	$112,536	$10,686
State/Federal Education Funds	$0	$0
Total Outside Revenues	$435,541	$379,562
Total Operating Revenues	**$2,758,851**	**$2,957,369**
Operating Revenue Per Capita	$3,993	$4,407
State/Federal Capital Project Revenues	$1,017,254	$662,967
TOTAL ALL REVENUES	**$3,776,105**	**$3,620,336**

Source: DCED Website, 2001, 2002

[18] Detailed fish tax revenue information for the community was presented in written form by the City during public testimony on crab rationalization issue before the NPFMC at the October, 2002 meetings.

There are no local property taxes on the seafood processing facilities or any other properties within the community. The City has a business impact tax on the books "aimed at processing" that could function as a revenue source like a property tax, but it is currently (2002) set at a rate of zero percent. That was scheduled to change as of January 2003. As currently conceived, the first 10 million pounds of processed product would be tax free, but beyond that the first 60 million pounds would be taxed at a rate to yield revenue of $200,000 at the upper volume, with an annual revenue cap kicking in at that point. Institution of this revenue source will represent a marked departure from the way revenue is currently derived from local processing.

Beyond sales and fish taxes, the community derives revenue from a number of different fisheries-related sources. Local taxes on fuel transfers or sales, a strong source of revenues in some communities, has only recently begun to be assessed in King Cove. Peter Pan, the only marine fuel sales outlet in the community, had been paying these taxes for less than year at the time of fieldwork (2002), so no data on this revenue source are yet available. The City of King Cover provides water to the Peter Pan plant at a flat rate of $8,333 per month, and sewer services at a flat rate of $2,060 per month. Solid waste service revenues from the Peter Pan facility vary by the volume of waste generated, but City staff reports monthly revenues from this source have varied between approximately $3,000 and $8,000 per month in recent years. At present, Peter Pan generates all of its own power independently, as does the City, but both parties are reportedly interested in configuring the system to allow for the purchases of surplus power in either direction in the future. The City also generates fishing-related revenue, and crab fishing-related revenue specifically, through harbor or moorage fees, as well as through a per pot charge for crab pots moving across City docks (in either direction) that was recently increased from $1 to $1.50 per pot and pot storage fees on City lands of 25 cents per pot per month.

During the late 1990s, King Cove saw a growth spurt and undertook the building of a new clinic, water and hydroelectric system improvements, and harbor construction, but more recently there has been a substantial downturn in revenues. Data supplied by the City Manager indicates an overall decline in revenue of 24 percent from FY 2000 to FY 2002 (moving from approximately $1.7 million to about $1.3 million). According to City staff, the City was significantly short of budget this past year, and made payroll cuts, including cutting one police officer and one harbor employee. The City is currently deficit funding the general fund from savings and, along with local residents, the City has been the beneficiary of Steller sea lion protection-related relief funds that have helped fill the gap in revenue. In this year (2002), the City Manager states that even with $175,000 worth of budget reductions, the City is still $250,000 short and would be over $300,000 short were it not for the Steller sea lion relief funds. Recent capital improvements have led to an accumulated debt services of $3 million per year over the next 30 years, but the City's special revenue funds (often termed enterprise funds in other communities) are "all in the black" except for the harbor and port fund. For that fund, the expenditure side has been put in place, and while the revenue side has been set, it will take some time to be fully realized. Additional revenues for the water system will begin to accrue on January 1, 2003 when the City moves from flat rate to volume-related charges for Peter Pan, which uses approximately 80 percent of the system load. The water rates will increase to 90 cents per thousand gallons, or approximately $185,000 for a 225-million gallon service requirement. Solid waste fees have moved upward with three rate increases in recent years.

Summary of Recent Community Fishery IFQ/Co-op Rationalization Experience and Implications for Likely Crab Rationalization Impacts

King Cove was chosen as a study community for the assessment of the social impacts of BSAI crab management alternatives because it is a community that is engaged in those crab fisheries, in terms of both harvesting and processing. In terms of analogous experiences for anticipating potential impacts under the BSAI crab rationalization alternatives, the community has experience with both IFQ and co-op types of

rationalization programs. King Cove harvesting and processing sectors were both affected by the implementation of IFQs for halibut and sablefish. An AFA-qualified processor is located in King Cove, so the community has seen first hand the impacts of operating a fishery under AFA style co-ops. As is the case with other communities, however, it is difficult to precisely separate out the impacts of these programs from other co-occurring fisheries developments and the interactive nature of fisheries dynamics as, for example, Steller sea lion protection measures have affected the community-based fisheries during this same time. In general, however, the main areas of previous rationalization associated impacts may be summarized as follows:

- Many local fishermen believe that the initial allocation of halibut and sablefish IFQs has unfairly deprived them of an opportunity to participate in these fisheries to the degree that they desire. This is an issue of the qualification period chosen for the initial allocation and the historical participation in the fisheries, and the change in the costs of entry into the fisheries (increased capitalization costs due to the need to buy IFQs). These are likely to also be local concerns for any crab rationalization program.

- Those local fishermen who have received halibut and/or sablefish IFQs have generally perceived them as a positive development, in that they have been able to negotiate price in a rational and competitive way. However, due to this same market/price dynamic, the number of local buyers for halibut is limited and the local price for halibut is low compared to the price commonly available elsewhere.

- For local processing, the IFQ system for halibut and sablefish has resulted in lower profit margins and a lower volume of fish processed, due to the higher prices offered by other markets and the ability of harvesters to deliver to those markets. This has affected local fish tax revenues and the community's overall economic activity.

- The AFA stabilized the volume of BSAI pollock processed in King Cove, but at the cost of limiting the amount above this allocation that the processor can process. In addition, through linked sideboard mechanisms, the AFA limits the amount of BSAI Pacific cod and crab that the King Cove processor can purchase. This limits their ability to expand production and, in times of quota reduction, exerts a downward influence on fish tax revenues for the City of King Cove.

- Other combined factors negatively affecting local commercial fisheries have accompanied the dynamics identified above. These include Gulf of Alaska pollock quota shifts from the western to the eastern Gulf, Area M salmon restrictions, and Steller sea lion-related fishery restrictions. These immediate factors have had a pronounced negative impact on local commercial fisheries, but there are also speculative concerns regarding BSAI vessels being able to expand to or focus more effort on the Gulf of Alaska than in the past due to advantages gained under BSAI rationalization programs. While the sideboards of AFA were intended to forestall such effects, and there is no hard evidence for such effects at present, these concerns are having an impact on the way local fishermen think about long-term strategies.

- It is difficult to assign causality, or degree of causality, for several social impacts that have been realized in the community as a result of these factors. Further, there are a number of difficulties quantifying changes that are believed to be taking place in the community. Example indicators of change in the community (and the problems therewith) include the following:

- Discussions with knowledgeable individuals indicate there has been a recent dip in volume for retail businesses in the community, but proprietary business information would be need to quantify this impact.

- Local population may have increased but may be more indicative of a consolidation of population induced by a regional economy exhibiting overall weakness rather than growth due to a robust local economy. School enrollments have declined during a period of apparent overall growth.

- Commercial fishery data confidentiality restrictions preclude a detailed analysis of the relative role of fishery-linked impacts to overall community impacts, because not enough entities exist in the community to allow trend analysis for local impacts of individual fisheries.

• The local fishery support service sector is small. A range of support services is provided by the local plant itself. In this case, under AFA-related conditions, inventory has been reduced and there has been a reduction in labor hours for support service speciality personnel. Again, this cannot be quantified due to confidentiality restrictions. There are a number of small independent support service businesses that rely on fisheries activity for revenues, and these all appear to have seen a decline in activity in recent years. This is surely attributable, in part, to poor salmon fishing conditions over the last few years, as well as to low crab GHLs.

In short, King Cove has recently experienced a range of changes linked directly or indirectly to fisheries dynamics, and a number of these are adverse in nature. While causality is difficult to assign, some of these locally adverse impacts appear to be related to the particular structure of earlier fishery rationalization programs, but how much is due to rationalization itself as opposed to the particular form of rationalization employed in those fisheries is not clear.

To a large degree, the outcome for the community of King Cove under crab fishery rationalization is tied to the outcome for the local shoreplant, given the disproportionate engagement in the fishery through the processing sector rather than the harvest or support sectors. This is particularly true for impacts tied to municipal revenues derived from fish taxes. On the harvest side, some specific municipal revenues would likely decline with fleet consolidation independent of total delivery volumes (and associated fish taxes). These would include moorage/wharfage, pot transfer, pot storage, and other direct harvest-related fees.

The local harvest fleet is far more heavily dependent on species other than BSAI crab than on crab itself, but beyond the one locally based BSAI crab vessel, a number local residents hold skipper and crew positions on BSAI crab boats whose owners reside elsewhere. Fleet consolidation-related impacts would likely have adverse impacts on these individuals, but the nature and intensity of those impacts depend on the structure of consolidation as well as subsequent decision making regarding differential advantages and disadvantages of moorage locations and the role of King Cove in those calculations.

The relatively few fishery support service businesses in the community would likely see a further reduction in activity due to the elimination of another peak activity season(s) with a slowing down and spreading out of crab-related activity. Indirect impacts of the slowdown and particularly fleet consolidation would be felt by virtually every private sector business in the community.

A major issue of local concern is the potential movement of rationalized processing between communities within a region, or even between plants owned by the same firm. Depending on company response to these conditions, King Cove could stand to either benefit or lose under these conditions.

Concern is expressed in the community regarding the large degree of influence business decision making at the processing company will have on the local economy, and the uncertainty this brings. On one hand, there are concerns that provisions that would function like processor quota shares would concentrate more bargaining leverage in what is already a one-company town, with results similar to what older fishermen remember from the fish-trap days. On the other hand, a rationalization alternative may change conditions such that consolidation of processing away from King Cove may make economic sense for the processing entity, leaving the community without any BSAI crab processing at all.

These concerns have resulted in the community taking a formal stance on the issue of rationalization. On August 31, 2002, the King Cove City Council adopted Resolution 03-04 opposing the three-pie crab rationalization alternative selected by the NPFMC as the preferred alternative. This resolution cites the need for local small boat fishermen to retain the flexibility to pursue several species, the current effective preclusion of the local small boat fleet from the fishery due to the timing of the crab seasons, and the limited markets available to local fishermen as current challenges, and it concludes that vesting the resource in individuals and corporations as proposed would "threaten the social and economic viability of our community." It is the expressed desire of the City Council that "the Bering Sea crab fishery should remain an open access fishery."

Differential Impacts of the Three Rationalization Alternatives at the Community Level

As summarized above, King Cove's direct engagement in, and dependency on, the BSAI crab fishery is based to a large degree upon ties to local processing activity and to a lesser degree on participation in the harvest sector. In an addition to the general types of impacts of rationalization on the community summarized above, beneficial or adverse impacts to the community of King Cove deriving from the different rationalization alternatives result from the differential outcomes for these activities.

Each of the rationalization alternatives have identical provisions regarding increased allocations to the CDQ program (inclusion of additional species and an increase in the included species set-aside from 7.5 to 10 percent of the total allocation), creation of captain's harvest quota shares (3 percent of the TAC), and a community development allocation to Adak (10 percent of the WAI golden king crab allocation). Each of these provisions are directed toward fostering beneficial community or social impacts for at least some groups or areas. King Cove, as a non-CDQ community, would not benefit from the CDQ program increases. Impacts of the creation of captains shares would likely benefit at least some community residents as individuals, but this provision is unlikely to result in significant impacts for the community itself. The Adak community allocation would not result in significant impacts to the community of King Cove.

Regionalization is a feature of the three-pie alternative and the IFQ alternative, but is not a part of the cooperative alternative. Regionalization is explicitly designed to create beneficial community or social impacts for at least some groups or areas. The north/south region designation was designed primarily to benefit the Pribilofs, while the west region designation in the WAI golden king crab fishery was designed primarily to benefit Adak.

Impacts of the west region creation would likely be insignificant for King Cove. Impacts of the creation of the north/south regional split in and of itself under the three-pie alternative are not likely to be significant for the community of King Cove, absent the accompanying community protection provisions discussed below. Regionalization under the IFQ alternative, which has no specific community protection provisions (save for a waiver of sea time requirements for eligible community purchase of harvest quota share, as discussed below), would not hinder the type of processor consolidation that could have negative impacts on the community of King Cove, were local crab processing to exit the community. Under the three-pie alternative King Cove (if deemed an eligible community) would retain levels of processing activity seen during the

qualifying period (due to a combination of regionalization and community protection features, as described below). Without community protection provisions, the regionalization featured under the IFQ alternative would not likely have impacts that would differ from the type of consolidation that could occur under the cooperative alternative, which has no regionalization component. For King Cove harvesters, regionalization may result in higher costs, depending on ultimate allocation of north region harvest quota to individual operations, but this information cannot be disclosed due to confidentiality restrictions.

Additional community protection features of a "cooling off" period and a right of first refusal on transfer of processing quota shares are a part of the three-pie alternative (and are not a part of any other alternative). Eligible communities (those that had 3 percent of processing activity for covered species) would be assured that during the 2-year "cooling off" period processing quota would not be moved out of the community. Subsequent transfers would be subject to a right of first refusal that would allow an eligible community (through its CDQ group or another community group, if a CDQ group were not present) to obtain ownership and control over processing quota to retain local processing activity. (Due to confidentiality restrictions, it cannot be disclosed whether or not King Cove is deemed eligible for community protection provisions.)

For King Cove, if eligible, both of these features would likely be neutral or beneficial in terms of community and social impacts. The "cooling off" period would ensure that processing activity levels seen in the qualifying period continue in the community, and the right of first refusal would ensure that a local community group formed for that purpose (comprised of both King Cove and AEB representatives) would be able to obtain processing quota if it were at risk for leaving the AEB in the future. Exercising the right of first refusal could result in a significant positive benefit to the local community group, but unlike some other communities, this group would not exclusively represent the interests of a single community. It is assumed that this group would manage any quota obtained that was based on King Cove activities for King Cove's benefit, but due to the fact that the group would represent a constituency across a number of communities within the AEB, and it is possible that at least some of the benefits derived from ownership of processor quota share obtained through exercising a right of first refusal would be realized outside of King Cove. At present, whether anticipated processing consolidation would result, all things being equal, in a flow in to or out of King Cove is unknown (as such movements depend on individual business decisions that are unknown), so the relative significance of these protection measures to the community in relation to the status quo is unknown. What is known is that these measures give a degree of predictability and/or stability for the first two years of the program.

The rationalization alternatives also differ on the ability of communities to obtain harvest quota share. Under the three-pie and IFQ alternatives, CDQ groups, or other community groups if a CDQ group is not present, in eligible communities (again, those with 3 percent or more of processing activity for covered species during the qualification period) would be able to purchase harvest quota share due to a waiver of sea time requirements that would otherwise prevent such purchases. By design, the ability to obtain harvest quota share could result in beneficial community and social impacts through communities becoming more directly engaged in the fishery.

In the case of King Cove, harvest quota shares, if purchased, would be obtained by a to-be-formed community group that would be comprised of community and borough representatives. Given that King Cove is one of several communities within the AEB, benefits of harvest quota share ownership would be spread across a base of multiple communities (though presumably with a weighting toward King Cove based on disproportionate representation on the community group). While still clearly beneficial to King Cove, this geographic dispersion of benefits may lessen the overall impact of this feature on the community itself. Nevertheless, if exercised, this ability could result in beneficial community and social impacts through the community itself becoming directly engaged in the fishery in a way that it is not under existing conditions.

Another potentially distinguishing feature of the rationalization alternatives from a community or social impact perspective is the ability of harvesters to form co-ops under the three-pie and cooperative alternatives (but not under the IFQ alternative). For King Cove, the community or social impacts of this ability (or lack thereof) are not yet clear.

2.5 SAND POINT

Sand Point is located on Humboldt Harbor on Popof Island in the Shumagin Islands group. Off the southern shore of the Alaska Peninsula in the Gulf of Alaska, Sand Point is 570 air miles from Anchorage. The contemporary community of Sand Point was founded in 1898 by a San Francisco fishing company as a trading post and cod fishing station. Aleuts from surrounding villages and Scandinavian fishermen were the first residents of the community. Sand Point served as a repair and supply center for gold mining during the early 1900s, but fish processing became the dominant activity in the 1930s. Aleutian Cold Storage built a local halibut plant in 1946. Trident Seafoods operates the current processing plant, which primarily processes pollock, Pacific cod and other groundfish, salmon, and halibut. The Sand Point plant does not process BSAI crab, although it does process Gulf of Alaska crab, when it is available. Peter Pan Seafoods operates a buying station in Sand Point for their processing plant in King Cove. Sand Point is home port for the largest residential fishing fleet in the Aleutian-Pribilof region.[19] Incorporated in 1966, the City of Sand Point encompasses 7.8 square miles of land and 21.1 square miles of water.

Sand Point lies in the maritime climate zone. Temperatures range from -9 to 76°F. Snowfall averages 52 inches, and average annual precipitation is 33 inches.

Sand Point is incorporated as a First Class City and, like King Cove and Akutan, is part of the AEB. Like Akutan and King Cove, Sand Point is home to one dominant shoreplant. Like Unalaska and King Cove, Sand Point is not a CDQ community. Sand Point, like King Cove, has historically been a commercial fishing community with processing facilities as part of the community for decades and it has a substantial residential commercial fishing fleet that delivers to the local seafood processors. With respect to the latter point, Sand Point is like King Cove and unlike Unalaska and Akutan.

Community Demographics

Sand Point is a community that traces its founding directly to commercial fishing. Unlike Unalaska and Akutan, it developed around a commercial fish processing plant and did not grow from an existing traditional Aleut village. Similar to the pattern seen in King Cove, the contemporary community is ethnically heterogeneous, but much greater diversity is found among the population components associated with fish processing and support services than for those associated with other economic activities such as fish harvesting, government, or education. As in King Cove, while the fish processing employment force does display continuity from year to year, the local perception is that they are more transient than other community residents and are not considered to be truly "local" residents as those with other occupations who do not live in company housing.

Total Population

Historically, Sand Point's population has fluctuated with fishing activity as individuals come to the community seasonally to serve as fish tenders, seafood processing workers, or harvest vessel crew members. Table 2.5-1 provides total population figures for the community, by decade, from 1900 through 2000.

[19] Like King Cove, Sand Point is not geographically within the Aleutian Island chain, but socially and culturally the community is considered part of the Aleutian region. The community's residents are part of the Aleut Corporation, the ANCSA regional corporation, and the village is one of the constituent communities of the Aleutian/Pribilof Islands Association.

Table 2.5-1 Sand Point Population by Decade, 1940-2000

Year	Population
1900	16
1910	0
1920	60
1930	69
1940	99
1950	107
1960	254
1970	360
1980	625
1990	878
2000	952

Source: Historic data from Alaska Department of Community and Economic Development. 2000 data from U.S. Bureau of the Census

Ethnicity

The ethnic composition of Sand Point's population may be seen in Table 2.5-2. As shown, Sand Point has a plurality of Alaska Native residents, but the diversity of the population associated largely with fish processing may be seen in the fact that in 2000, Asian/Pacific Islander and "Other" groups combined were larger than the "White" community population component.

Table 2.5-2 Ethnic Composition of Population Sand Point: 1990 and 2000

Race/Ethnicity	1990		2000	
	N	%	N	%
White	284	32.3%	264	27.7%
African American	4	0.5%	14	1.5%
Native American/Alaskan	433	49.3%	403	42.3%
Asian/Pacific Islands*	87	9.9%	224	23.5%
Other**	70	8.0%	47	4.9%
Total	878	100%	952	100%
Hispanic***	78	8.9%	129	13.6%

Source: U.S. Bureau of Census.

* In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 3) and Asian (pop 221)

** In the 2000 census, this category was Some Other Race (pop 21) and Two or more races (pop 26).

*** "Hispanic" is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).

Group housing in the community is largely associated with the seafood processing workforce. As shown in Table 2.5-3, 22 percent of the population lived in group housing in 1990 and 36 percent of the population did so in 2000. Table 2.5-4 provides information on group housing and ethnicity for Sand Point in 1990 (comparable data for 2000 are not yet available). As can be seen in the table there are clear differences

among various ethnic groups in the community. For example, very few Alaska Native residents of the community live in group housing, while comparatively few Asian or Pacific Islanders live outside of group housing. Individual housing in Sand Point has been in chronically short supply in recent years, a condition locally attributed to the fact that most housing is built through government agencies, and there has not been any recent residential construction. Local residents did report that some houses are occupied only seasonally, in conjunction with the summer fisheries, but that such houses were generally not available for rent, except perhaps to family, friends, and other "known" people.

Table 2.5-3 Group Quarters Housing Information, Sand Point, 1990 and 2000

Year	Total Population	Group Quarters Population		Non-Group Quarters Population	
		Number	Percent of Total Population	Number	Percent of Total Population
1990	878	189	21.53%	689	78.47%
2000	952	340	35.71%	612	64.28%

Source: U.S. Bureau of the Census 1990 STF2, Census 2000 Summary File 1

Table 2.5-4 Ethnicity and Group Quarters Housing Information, Sand Point, 1990

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	284	32.35%	48	25.40%	236	34.25%
Black	4	0.46%	4	2.12%	0	0.00%
American Indian, Eskimo, Aleut	433	49.32%	3	1.59%	430	62.41%
Asian or Pacific Islander	87	9.91%	80	42.33%	7	1.02%
Other race	70	7.97%	54	28.57%	16	2.32%
Total Population	878	100.00%	189	100.00%	689	100.00%
Hispanic origin, any race	78	8.88%	58	30.69%	20	2.90%
Total Minority Pop	601	68.45%	146	77.24%	455	66.04%
Total Non-Minority Pop (White Non-Hispanic)	277	31.55%	43	22.76%	234	33.96%

Source: U.S. Bureau of the Census 1990 STF2

Age and Sex

Table 2.5-5 displays the age and sex distribution of Sand Point's population in 1990 and 2000. The predominance of males over females is consistent with disproportionate availability of male-oriented processing employment, as well as possible differential female/male emigration from the community.

Table 2.5-5 Population by Age and Sex, Sand Point: 1990 and 2000

	1990		2000	
	N	%	N	%
Male	557	63%	593	62%
Female	321	37%	359	38%
Total	878	100%	952	100%
Median Age	NA		36.5 years	

Source: U.S. Bureau of the Census

Table 2.5-6 provides information on school enrollments in Sand Point for the period 1991-2002. As shown, there has been year-to-year fluctuation over this period, with 1997 being year with the highest count for the range of years shown. Since 1997, enrollments have dropped in each successive year, declining from 150 students in 1997 to 114 in 2002, an overall decrease of 24 percent.

Table 2.5-6 Sand Point School Enrollment, FY 1991-2002

Fiscal Year	Student Count
1991	149
1992	145
1993	149
1994	141
1995	128
1996	136
1997	150
1998	130
1999	127
2000	125
2001	116
2002	114

Source: Adapted from spreadsheet supplied by C. Warner, Aleutians East School District, October 2002.

Local Economy and Links to the Crab Fishery

In terms of employment, 87 percent of Sand Point's workforce is employed full time in the commercial fishery (USACE 1998). Fishing employment is followed by local government (borough and local) and then by private businesses. Seafood processing ranks after each of these other employers, meaning that the vast majority of the workforce at the shoreplants are not counted as community residents.

The Sand Point economy, like those of other heavily fishery-dependent communities in the area, is cyclical, and tied to fish harvesting and processing activities. There are, however, indications of an overall downward economic trend in recent years. A number of factors cited for these effects are regional and cumulative in nature (low fish prices, Steller sea lion measures, competition from farmed fish, Area M changes, negative

impacts to Sand Point resulting from AFA-related conditions, and other management and resource concerns). It is possible that Sand Point may grow in size because of population movement from smaller regional communities in even worse economic shape. This is not, however, likely to strengthen the local economy, and there is considerable local concern over school enrollments that have steadily declined since 1997.

There are few quantitative measures of economic activity in Sand Point that reflect the most recent dynamics. The Sand Point Mayor reported that in FY 2001, sales tax receipts are significantly less than for the previous year, by somewhat over 20 percent (Gardener, personal communication, 2001[20]). Sales taxes are comprised primarily of the raw fish tax and taxes on general retail sales. Information available on the value of processing in Sand Point is not totally consistent with this fish tax information but is subject to estimation problems, especially for products with pricing mechanisms like that of roe. It is likely that roe prices in 1999 and 2000 account for the higher than expected tax receipts. Volume of production at the Sand Point plant declined significantly in 2000, after hitting peaks in 1999 that were the highest since 1993.

The dynamics of the "available labor force" were also noted to have recently changed. Local resident wage and salary jobs have in the past been fairly well differentiated by sex – men either fished or worked at some "outside" occupation in a "land" department such as construction, maintenance, or fire and police. Women tended to fill office and service positions. Employers have started to see a change in this pattern, as more men are applying for steady (even if relatively low paying) jobs on land rather than fishing. The most commonly cited factor for this was the projected low salmon price, with the expectation that salmon members crew shares would not amount to very much. Other families have considered moving. The common pattern in the past has been for locals to graduate from high school and either go fishing or move to another community. There has been relatively little turnover in local jobs, as these jobs tend to be highly valued by those who occupy them since there are relatively few of them (and there are of course jobs that are held by more transient non-locals). Local opportunities are seen as quite constrained, and the local Native Corporation is looking more for non-local investment opportunities rather than local ones. It was pointed out by several people that development opportunities in Sand Point are quite limited. Limited air service makes the shipment of fish products very difficult and precludes a great number of "value added" enterprises. Reeves Aleutian Airlines flew relatively large planes into Sand Point but has been replaced by PenAir, which flies smaller planes and is more focused on passenger and mail service than on cargo.

Harvesting

Since the Sand Point plant does not process BSAI crab, there is no processor (Trident) crab fleet in Sand Point. However, a limited number of Sand Point catcher vessels have historically participated in these crab fisheries, as have those of King Cove. As discussed in the King Cove community profile (above), total vessel numbers are too low to be able to discuss the fleet communities separately due to confidentiality restrictions, so that the fleets for Sand Point and King Cove are discussed as one category. For the period 1991-2000 (the most recent and longest time series information available), the number of vessels fishing from these two communities averaged seven vessels for Bristol Bay Red king crab, five vessels for opilio crab, six vessels for tanner crab, nine vessels for Pribilof red or blue king crab, and less than one vessel for Dutch Harbor brown crab. Much of this crab would probably have been delivered to the Peter Pan processing plant in King Cove, although for some of the more distant fisheries deliveries would be made to other plants (shore or floating). For the 1991-2000 period, 30 different vessels owned by residents of the two communities participated in the BSAI crab fisheries, and most (17, with 2 unknowns) were 58 feet or less in length. These are multi-fishery/salmon boats, and are limited in the BSAI crab fisheries by weather and sea conditions. Still, for these vessels BSAI crab contributed 68 percent of the value of their catch, with opilio as the most significant single fishery. For the combined fleet of those communities as a whole, BSAI crab contributes only 18 percent of the total value of the harvest. Larger vessels are clearly preferable for BSAI fisheries,

[20]Gardener, Glen, Mayor of Sand Point AK. In-person interview in Sand Point 03/20/01.

however, as of the seven vessels from these communities active in the fisheries in 2000, five were over 58 feet in length. Many of the smaller vessels have dropped out of the BSAI fisheries, and most if not all more recent entrants are over 58 feet in length. Unlike King Cove based vessels, at least some Sand Point vessels have fished further west in the Aleutians and delivered crab to Adak in the last couple of years, as noted in that community profile, although apparently none have yet permanently relocated to that community. More detail on the characteristics of the non-crab fishing fleet delivering to the Trident plant in Sand Point can be found in the "AFA Report to Congress."

Processing

The Sand Point plant does not process crab and has not processed herring since 1996, and in its groundfish operation has emphasized pollock over Pacific cod. Through time, the Sand Point plant has become somewhat less diversified. The plant is currently seeking new species and product opportunities, and these dynamics have changed the distribution and peak of employment effort at the seafood plants, which have been further influenced by the effects of the AFA.

Detailed production figures cannot be disclosed for the local Trident Seafoods plant because of confidentiality restrictions. The plant varies in its pollock product mix and can produce surimi as well as fillets. The relative dependence of the plant on different species has varied over time and with stock fluctuations. For instance, 1993 was clearly a very good year for salmon, while 1996 and 1997 were both poor salmon years. While changes from 1999 to 2000 cannot be definitively stated to be other than statistical fluctuations, the pattern for 1999 and before had been for pollock to contribute more than non-pollock groundfish, both in terms of weight and value. This was reversed for 2000. These changes are made somewhat more tentative due to the lack of halibut data in the year 2000 data set.

Given common ownership with the Akutan Trident plant, the Sand Point plant, prior to the AFA, obtained Bering Sea pollock in coordination with that plant. This operation is unique among inshore operators for the degree of coordination across regions and for the way Bering Sea pollock processing is managed between regions. This plant did not show up in the 1991 BSAI pollock harvest data but did appear in the 1994 data, and if increased in volume from 1994 to 1996. The trend since 1996 has been for a decline in the amount of BSAI pollock that this plant processes, with a sharp decline between 1999 and 2000, which corresponds with the implementation of AFA for onshore plants.

In terms of functional economic or social integration with the community at large, the plant in Sand Point is quite different from those in Unalaska/Dutch Harbor or Akutan. As noted, compared to Sand Point (and King Cove), the development of commercial seafood processing in Unalaska/Dutch Harbor and Akutan is a relatively recent development (at least in terms of continuity of operations at specific facilities). The Sand Point processor has longstanding relationships with the local catcher fleet which, in turn, is the source of most employment in the community (among permanent residents). This is a sharp contrast to Unalaska. Unalaska is the site of multiple shoreplants and has a much more ‘industrial’ fishery than does Sand Point, but this is changing, particularly with respect to Bering Sea pollock, which is not fished by the local small boat fleet. The boats delivering BSAI pollock to Sand Point are ‘Bering Sea’ boats, of the same type delivering to the inshore sector elsewhere.

Peter Pan Seafoods operates a support station in Sand Point for its King Cove operations. This station supports fisheries that use tenders for one reason or another. Historically, such fisheries have been pollock (still open access in the GOA, and time-constrained in the "A" season in the Bering Sea), salmon, and pot cod. The size of quotas or runs, price structure, and the speed of the fishery all affect how much tendering takes place in Sand Point as opposed to direct delivery to the King Cove plant.

Support Services

The fishing-related support services sector of the Sand Point economy is similar to that of King Cove and unlike that of Unalaska/Dutch Harbor, with its relatively well-developed support services. In Sand Point, like King Cove, the primary shoreplant has historically provided a variety of fleet support services. In terms of relationships between inshore and offshore components of the groundfish fishery, Sand Point is in a quite different position than Unalaska/Dutch Harbor or Akutan. Unlike Unalaska/Dutch Harbor, Sand Point does not have enterprises related to the offshore sector nor does it derive direct revenues from the offshore sector (although the plant in Sand Point is part of a company that also owns catcher processors).

Retail and other support activities in Sand Point are difficult to gauge, and company records are not available. The Native Corporation started a retail grocery store to provide some price competition for the long-time single grocer in the community (the processing plant also has a store, which is used mainly by its processing workers). This investment was made in 1997, when fishing conditions looked good, along with the purchase of a local NAPA auto parts store. The NAPA enterprise went out of business in 2000, but the store has been doing comparatively well. Corporation officers estimate that the more established store does approximately four times as much business as their store, and that store certainly stocks a much wider range of goods. The corporation has owned a local tavern since 1975, and it has consistently made a profit. The corporation's hotel is also successful, although it is busier in the winter than in the summer. A private bed and breakfast that was started recently has developed a strong business and tends to be full year-round. There are a limited number of restaurants in the community.

The Municipality and Revenues

As noted in the introduction to Alaska communities section of this document, Sand Point is part of the AEB and has important revenue ties to the borough. Sand Point community-specific revenues for 1999 and 2000 as found on the DCED website are presented in Table 2.5-7. More detailed local fish tax information cannot be presented due to confidentiality restrictions resulting from the fact that there is only one processor present in the community. Local revenue sources include a 3 percent sales tax and a City 2 percent raw fish tax (in addition to the borough 2 percent raw fish tax). Community services are perceived to be in danger from decreased revenue flows resulting from reduced processing. Sand Point does not have local property taxes.

Table 2.5-7 Sand Point Municipal Revenues, 1999 and 2000

Revenue Source	1999	2000
Local Operating Revenues		
Taxes	$287,282	$397,888
License/Permits	$0	$0
Service Charges	$130,118	$172,114
Enterprise	$613,358	$630,887
Other Local Revenue	$75,227	$90,365
Total Local Operating Revenues	$1,143,646	$1,403,309
Outside Operating Revenues		
Federal Operating	$38,047	$28,294
State Revenue Sharing	$41,384	$27,275
State Safe Communities	$28,228	$17,919
State Fish Tax Sharing	$537,974	$644,525
Other State Revenue	$37,950	$11,900
State/Federal Education Funds	$0	$0
Total Outside Revenues	$688,519	$732,507
Total Operating Revenues	**$1,832,165**	**$2,135,816**
Operating Revenue Per Capita	$2,176	$2,452
State/Federal Capital Project Revenues	$213,727	$504,358
TOTAL ALL REVENUES	**$2,045,892**	**$2,640,174**

Source: DCED Website, 2001, 2002

Summary of Recent Community Fishery IFQ/Co-op Rationalization Experience and Implications for Likely Crab Rationalization Impacts

Changes associated with the recent restructuring of the groundfish fishery under the AFA have been felt in Sand Point. While the local Trident plant qualified as an AFA (BSAI pollock) processor, it did not obtain a Co-op Processor Endorsement, as every boat that delivered BSAI pollock to this plant delivered over 80 percent of its BSAI pollock to another plant owned by the same company in the Bering Sea. The operational pattern for the Sand Point plant was to serve as a "relief valve" for this Bering Sea plant during the open access race for fish. This optimized or maximized the amount of BSAI pollock that the parent company could process. With the implementation of the AFA and the end of the race for fish, the BSAI pollock season was lengthened and the rate of harvest (and processing) reduced. This much reduced the need to divert pollock to be processed at the Sand Point plant and seems to have confined this need to the "A" and "B" roe seasons. The reason given for this was that the need to harvest roe at its peak imposes a natural and inevitable "race for roe" that at times resulted in a harvest of more fish than could be processed by the Bering Sea plant alone. Sand Point and company managers saw little need to process "C" or "D" season BSAI pollock in the Sand Point plant. The imprecise processing figures we have for 2000, compared to 1999, seem to be consistent with this description of the patterns of change, as the Sand Point plant processed significantly less BSAI pollock than in the year before, as well as significantly less pollock overall. Steller sea lion measures, and a shift of GOA pollock quota to the Kodiak Shelikof area, no doubt have a significant role in this change as well. Overall, it is not possible to draw conclusions from the AFA co-op experience that could be directly generalized to crab rationalization alternatives, due to the unique nature of Sand Point with respect to the pollock fishery. It does, however, perhaps provide a cautionary note regarding the fragility of inter-community transfers of product with management regime shift.

Differential Impacts of the Three Rationalization Alternatives at the Community Level

As summarized above, Sand Point's direct engagement in, and dependency on, the BSAI crab fishery is based on participation in the harvest sector. In an addition to the general types of impacts of rationalization on the community summarized above, beneficial or adverse impacts to the community of Sand Point deriving from the different rationalization alternatives result primarily from the differential outcomes for the harvest sector.

Each of the rationalization alternatives have identical provisions regarding increased allocations to the CDQ program (inclusion of additional species and an increase in the included species set-aside from 7.5 to 10 percent of the total allocation), creation of captain's harvest quota shares (3 percent of the TAC), and a community development allocation to Adak (10 percent of the WAI golden king crab allocation). Each of these provisions are directed toward fostering beneficial community or social impacts for at least some groups or areas. Sand Point, as a non-CDQ community, would not benefit from the CDQ program increases. Impacts of the creation of captains shares would likely benefit at least some community residents as individuals, but this provision is unlikely to result in significant impacts for the community itself. The Adak community allocation would not result in significant impacts to the community of Sand Point.

Regionalization is a feature of the three-pie alternative and the IFQ alternative, but is not a part of the cooperative alternative. Regionalization is explicitly designed to create beneficial community or social impacts for at least some groups or areas. The north/south region designation was designed primarily to benefit the Pribilofs, while the west region designation in the WAI golden king crab fishery was designed primarily to benefit Adak. Impacts of the west region creation would likely be insignificant for Sand Point. Similarly, impacts of the creation of the north/south regional split under the three-pie and IFQ alternatives are not likely to be significant for the community of Sand Point, at least from a processing perspective, given the current lack of crab processing in the community. For Sand Point harvesters, regionalization may result in higher costs, depending on ultimate allocation of north region harvest quota to individual operations, but this information cannot be disclosed due to confidentiality restrictions.

Additional community protection features of a "cooling off" period and a right of first refusal on transfer of processing quota shares are a part of the three-pie alternative (and are not a part of any other alternative). Eligible communities (those that had 3 percent of processing activity for covered species) would be assured that during the 2-year "cooling off" period processing quota would not be moved out of the community. Subsequent transfers would be subject to a right of first refusal that would allow an eligible community (through its CDQ group or another community group, if a CDQ group were not present) to obtain ownership and control over processing quota to retain local processing activity. Due to confidentiality restrictions, a definitive list of eligible communities cannot be provided, but it is assumed that Sand Point does not qualify given the known lack of processing under existing conditions. Given this assumption, "cooling off" and right of first refusal features would not work to protect Sand Point interests. Rather, they would serve to make it more difficult for Sand Point to engage in processing in the future, unless processor quota were transferred following the "cooling off" period from (1) another processing facility within the south region owned by the same firm that owns the Sand Point facility or (2) a non-CDQ community within the same borough (such as King Cove).

The rationalization alternatives also differ on the ability of communities to obtain harvest quota share. Under the three-pie and IFQ alternatives, CDQ groups, or other community groups if a CDQ group is not present, in eligible communities (again, those with 3 percent or more of processing activity for covered species during the qualification period) would be able to purchase harvest quota share due to a waiver of sea time requirements that would otherwise prevent such purchases. By design, the ability to obtain harvest quota share could result in beneficial community and social impacts through communities becoming more directly engaged in the fishery. In the case of Sand Point, it is assumed that the community does not meet the

eligibility criteria for this program feature, so the community would not benefit from an ability to own and control harvest shares under any of the alternatives.

Another potentially distinguishing feature of the rationalization alternatives from a community or social impact perspective is the ability of harvesters to form co-ops under the three-pie and cooperative alternatives (but not under the IFQ alternative). For Sand Point, the community or social impacts of this ability (or lack thereof) are not yet clear.

2.6 ADAK

The community of Adak is located on Kuluk Bay on Adak Island approximately 1,300 miles southwest of Anchorage and 350 miles west of Unalaska/Dutch Harbor, in the Aleutian Island Chain. Adak is the southernmost community in Alaska, on the same latitude as Canada's Vancouver Island. It is also the westernmost civilian community in Alaska (and in the United States), located directly south of Siberia. Adak, not a part of an organized borough, is located in the Aleutians West Census Area. Incorporated as a Second Class City in 2001, the city of Adak encompasses 122.4 square miles of land and 4.9 square miles of water.

Adak lies in the maritime climate zone and is characterized by persistently overcast skies, high winds, and frequent cyclonic storms. Winter squalls produce wind gusts in excess of 100 knots. During the summer, extensive fog forms over the Bering Sea and North Pacific. Average temperatures range from 20 to 60°F, but wind chill factors can be severe. Total precipitation is 64 inches annually, with an average accumulated snowfall of 100 inches, primarily in the mountains. Large earthquakes were experienced locally in 1957, 1964, and 1977.

At the beginning of the historical era, Adak Island was heavily populated but was eventually abandoned in the early 1800s as the Aleut hunters followed the Russian fur trade eastward, and famine set in on the Andreanof Island group. In 1913, under an executive order (No. 1733) Adak became part of the Aleutian Islands National Wildlife Refuge (NWR) as part of a federal effort to both protect sea otters that were on the brink of extinction due to being overhunted for their furs, and to facilitate additional development of a fur trade based on fox farming in the region.

According to information supplied by D. Corbett (personal communication, 2003) of the U.S. Fish and Wildlife Service (USFWS), a synopsis of reports and general information on U.S. government reservations in Alaska compiled by H.D. Gray in 1938 shows that from 1924 and 1926, Adak was leased by an entity named Adak Stock Propagation. Annual reports are missing from 1925, 1927, and 1928, but reports from 1929 through 1936 show that Adak Ranching Company of Seattle leased the island for an annual fee of $50. Some years had minimal or no trapping, but for three of the years in that span, the value of furs taken from the island were valued at between $17,000 and $18,000 per year. No information is available following the 1936 leases which were due to expire in June 1938. Information circa 1937-1938 lists H.E. Bowman as the manager of Adak Ranching Company operations. Gray's compilation notes that improvements on Adak were valued at $9,000 and included 12 cabins, while an August 1936 report by "Homer W. Jewell, Alaska Game Warden" that states: "We are informed that there are eleven cabins and five barabaras on Adak Island. We noted three of the cabins." Gray's compilation also shows adjacent Kagalaska Island leased on an annual basis from 1921 through 1936 by Andrew Snigaroff of Atka, with improvements valued at $1,000, including 2 cabins.

According to interviews conducted by Corbett (personal communication, 2003), use of Adak was tied to the community of Atka, and one of her interviewees from Atka had trapped both Adak and Kagalaska. Apparently different villages along the Aleutian Chain considered a number of different islands as being

under their control for trapping activities. Residents of Atka, the closest full-time community to Adak, trapped on multiple islands. For example, Andrew Snigaroff, the influential Atka resident who was shown as the lease holder for Kagalaska, also often spent the trapping season at Amchitka that was leased, but understood as "owned," by the village of Atka. It was apparent to Corbett from interviews that Adak, notwithstanding recognition of formal lease arrangements, was understood by Atkans as "theirs" and that they had traditional rights to trap there. While H.E. Bowman owned or managed the Adak Ranching Company, leased the islands from the government, transported trappers to and from the islands, and bought the furs, the Aleuts did not consider themselves employees, but perhaps saw their roles more as "independent contractors." It was, according to Corbett's interviews, the Aleuts who put up the cabins and put the foxes on the islands.

Despite the earlier abandonment of Adak as a place of year-round settlement, it is clear that trapping as well as hunting, fishing, and other subsistence activities by residents of Atka, if not other villages, continued to occur on and around Adak at least seasonally until World War II broke out. Although little is apparently documented about the immediate pre-War years, according to USFWS staff, all during the time Adak was part of the Aleutian Islands NWR and up through the beginning of the War, there were regularly used, established trapping camps on the island. Several of these were used annually by residents of Atka (D. Corbet, personal communication, November 2002). Senior Aleut Corporation personnel also noted during interviews for this project that there was use and at least some occupancy of the island up until such use was terminated by the War and the post-War continuing military presence on the island.[21]

The U.S. Department of the Interior (USDOI) has retained ownership of the island through the present day, although the northern part of the island was originally withdrawn from direct USFWS management because of military exigencies associated with World War II. While never technically leaving NWR status, the military exerted primary jurisdiction and the USFWS secondary jurisdiction during military use of these lands. During the war, Adak was the site of both Army and Navy facilities; after the war the Army base was transferred to the U.S. Air Force and renamed Davis Air Force Base. Later, the Navy assumed control of all military facilities on the island. Three Naval commands operated on the island including the Naval Air Facility (NAF), Naval Facility (NAVFAC), and Naval Security Group Activity (NSGA). Today the island is a part of the Alaska Maritime NWR, a successor USFWS-administered entity established in 1980 that encompassed the earlier established Aleutian Islands NWR and 10 other pre-existing refuges as well as new lands scattered along and off of the coast of Alaska. While the northern portion of the island that was developed for military use remains the property of the USDOI, it continues under military withdrawal status at least for the present and as such is not directly managed by the USFWS.

During the War, a substantial military buildup on Adak allowed U.S. forces to mount a successful offensive against the Japanese forces that had earlier captured and occupied Attu and Kiska Islands farther west in the Aleutians. After the War, Adak was developed as a Naval Air Station, and it also played an important role during the Cold War as a submarine surveillance center.

In the period following World War II, the U.S. Navy developed the community of Adak to support both military personnel and dependent families, transforming it into what became easily the largest community in the southwestern part of the state. In addition to housing, the military constructed several well-equipped facilities and recreation venues at Adak. These included a movie theater, roller skating rink, swimming pools,

[21] The occupancy of Adak immediately prior to World War II is not well documented in the secondary materials available at the time of this writing. According to the President of the Aleut Corporation (V. Tutiakoff, personal communication, October 2002), however, interviews have been done in recent years with individuals who had relatives on Adak at the time of the buildup of U.S. forces on the island, and who were subsequently displaced. At about this same time, there was a general consolidation of a number of very small villages throughout the Aleutian area, and many fewer settlements were repopulated after the War than existed in the decades beforehand. There are other lands in the region under federal jurisdiction at this point that may be future candidates for civilian repopulation similar to Adak. This would include, for example, Attu, which was a site of an Aleut village up until its capture by the Japanese in 1942, and to which the federal government did not allow residents to return following the War.

ski lodge, bowling alleys, skeet range, auto hobby shop, photo lab, racquetball and tennis courts. A new $18-million hospital was built in 1990. At its peak, the installation housed approximately 6,000 naval personnel and their family members, along with a limited number of personnel from other governmental agencies, such as the USFWS, and civilian contracting personnel.

The end of the Cold War and the associated military base realignment and closure process brought sweeping changes to Adak. In 1994, severe personnel cut-backs occurred, and family housing and schools were closed. The station officially closed on March 31, 1997. The majority of Adak Island and the naval facilities are at present (2002) in the process of being acquired by the Aleut Corporation, the regional ANCSA corporation of the Aleutian/Pribilof region, under the auspices of the base closure and realignment and federal land transfer process. This will be a multi-step process, with the land first reverting from Department of Defense (Navy) control to USDOI (USFWS) control. Next, the USDOI will swap lands on the northern end of Adak Island on an acre-for-acre basis with Aleut Corporation lands in the eastern Aleutians. The USFWS is not interested in managing the northern end of Adak as a part of the Alaska Maritime NWR due to the type of development that has already occurred there and the subsequent relatively low wildlife values, but it is interested in incorporating the non-Adak Aleut Corporation-owned lands with much higher wildlife values into the refuge (e.g., lands with significant bird cliffs and no problematic non-indigenous species, such as rats).

Not all lands that were controlled by the military on the northern portion of the island will pass into Aleut Corporation (or other private) ownership. A significant portion of land on the southeastern edge of the former military-controlled area will be retained as federal land. This area has high wildlife value and is contiguous with the USFWS-retained southern portion of the island. A discontiguous land-locked portion of land, the Mount Reed Exclusion Area to the southwest of the city of Adak, will be retained by the USFWS for the protection of the endangered Aleutian shield fern, Alaska's only endangered plant. Finally, some lands around Andrew Lake and Andrew Bay on Adak's northern coast will be retained at least for the immediate future, pending cleanup of the significant amounts of unexploded ordnance that remain in the area.

At present (2002), the land transfer agreement has been concluded between the USDOI and the Department of Defense/Navy, has passed through Congress, and is awaiting Presidential signature. After this process is finalized, a clock starts to run on the proposed land swap between USDOI and the Aleut Corporation. Assuming the process goes forward in a timely fashion, the land exchange process will result in approximately 47,000 acres of the northern portion of Adak being transferred to the Aleut Corporation. From this, some lands in and around the community proper will be subsequently transferred to the City of Adak.

Establishment of a non-military community on Adak has preceded formal land transfer. Members of approximately 30 families relocated to Adak in September 1998 to start a civilian community on site. Most of these original relocating residents were Aleut Corporation shareholders, and a school was reopened to support this population. The community incorporated (as a Second Class City) in April 2001.

The present institutional context of Adak is somewhat complex, due to the transitional process from a military to a civilian community being incomplete. For land to be transferred under the base realignment and closure process, a Local Reuse Authority (LRA)[22] is formed. In this case, the LRA is the Adak Reuse Corporation

[22] An LRA is "any authority or instrumentality established by State or local government and recognized by the Secretary of Defense, through the Office of Economic Adjustment, as the entity responsible for developing the redevelopment plan with respect to the installation or for directing the implementation of the plan" (32 CFR 175, Section 175.7 [Procedures]). In the case of Adak, present plans call for the ARC (i.e., the LRA) to dissolve when transfer occurs, rather than remaining in place to implement the plan. The ARC is intended to facilitate conveyance, in accordance with the following: "The Federal Government may best contribute to such reutilization and redevelopment by making available real and personal property at military installations to be closed to communities affected by such closures on a timely basis, and, if appropriate, at less than fair market value" (PL 103-160, Title XXIX, Subtitle A, Section 2901). Adak is perhaps unique among national base closure and reuse experiences in that it is not a community

(ARC), a non-profit entity formed for this purpose and composed of representatives from various entities in the region. According to senior Aleut Corporation staff, these entities included the Aleut Corporation, the City of Atka, the Aleutian regional school district, and the Aleutian/Pribilof Islands Association/AFN villages, with additional seats held by the fishing industry, a transportation interest, the APICDA, and the community of Unalaska (although it is reported that a number of these seats turned over early in the process or were not active for at least some portions of the reuse process). Given this composition, the ARC, while formed specifically for Adak reuse needs, is more nearly a regional entity than a community-based entity, per se.[23] While the assets of Adak are still under Navy ownership, the ARC is holding a transitional Master Lease agreement for the base. In turn, the ARC has sublet portions of the base and assets considered to have the potential for economic return to the Aleut Enterprise Corporation (AEC), a for-profit subsidiary of the regional Aleut Corporation. Formed to develop economic opportunities on Adak, the AEC, like its parent Aleut Corporation is not strictly a community based entity; though Adak-focused, it is run for the economic benefit of shareholders far beyond Adak. In a similar vein, while the AEC has focused its operations on Adak, there are at least tentative plans to extend AEC business ventures (e.g., marine fuel services) beyond the community itself. At present (2002), operation of the airport is the only undertaking in the community run directly by the ARC[24] and there are a total of "five or six" ARC employees in the community. The City of Adak operates community utilities and some of the existing facilities, but most of the earlier noted recreational facilities, except for the swimming pool, are now closed.

Community Demographics

The contemporary community of Adak traces its origin to a military settlement, not a traditional Aleut village like Unalaska, or a commercial fishing outpost like King Cove. Adak, in its most recent historical configuration, lost its "reason for being" as a result of the base realignment and closure process in the mid-1990s. While there has been a continuity of the physical structure of the community - structures built by and for the military are housing current residents and businesses - the community has seen a population turnover

that is attempting to recover from the loss of a base. Rather, it is a community that is attempting to form in the wake of a base closure. On the other hand, Adak may be conceived of as part of a greater Aleutian regional 'community' as represented by the Aleut Corporation and through historic Aleut ties to the land (and the wide ranging use patterns common in Aleut lifeways. While Adak arguably contributed very little to the other communities in the region during its operational military days, as there was virtually no social or economic interaction with other communities in the region (save for facilitating transportation links to Atka), as a newly organized civilian community the redevelopment of Adak would appear to be consistent with the federal policies on closed bases being used as economic engines for economically challenged areas: "It is DoD [Department of Defense] policy to help communities impacted by base closures and realignments achieve rapid economic recovery through effective reuse of the assets of closing and realigning bases - more quickly, more effectively and in ways based on local market conditions and locally developed reuse plans" (32 CFR 175, Section 175.4 [Policy]). The Adak case is also somewhat different than at least most other base realignment and closure experiences, given the earlier military withdrawal status from USDOI lands, and that lands and assets are transferring in whole to another federal entity for subsequent 'swapping' with the Aleut Corporation, rather than going directly to the ultimate re-users of the properties.

[23] Essentially by definition there was no civilian community of Adak when the ARC was formed and, given its composition and constituency, the interests of the ARC may not be identical to the interests of the residents of Adak at any given time in the transition process. In this sense the Adak LRA experience is somewhat different to that seen in many other cases of base closures where there was an existing adjacent community both pre- and post-base closure from which an LRA was constituted.

[24] This is not intended to be a long-term arrangement as the Aleut Corporation would like to see the Alaska Department of Transportation and Public Facilities assume responsibility and operational control of the airport. It is recognized that longer-term funding needs to be secured for airport operations, and the Aleut Corporation is in the process of attempting to help facilitate a funding package that would include partial funding from USDOI/USFWS as well as the Department of Defense in recognition of ongoing federal civil agency use and at least a modest level of continuing military use or potential use of the facilities (locally estimated at between 4 and 10 flights per week between all military branches, including those serving installations elsewhere in the Aleutians). Precedent in Alaska for this type of allocation of military funding to a largely civilian airport may be seen in King Salmon and at least one or two other facilities. There may also be a federal interest in the Adak airport due to the number of international flights that transit the area on a daily basis.

with conversion to a civilian settlement, such that the present population of the community comes from an entirely different set of socioeconomic and cultural circumstances than those who built the physical community. From a demographic perspective, the Adak of 2000 is literally not the same community as the Adak of 1990. Although the contemporary population does not have an Aleut majority, the community is very much an Aleut community by virtue of the driving role of the Aleut Corporation in its foundation and development and the predominant role of Aleut individuals in local governmental positions. Adak did not qualify as an Alaska Native village under the terms of ANCSA, due to the fact that it was essentially a non-Native community at the time of the passage of the Act (1971).

The contemporary civilian population of Adak initially grew out of an outreach program to shareholders of the Aleut Corporation. This program brought people to the island early in the transition process, and included employment related to transition, caretaking, and operation of the initial service enterprises. According to the AEC, this served to expose people to living on the island and the opportunities that were available there, which has increased retention. Non-shareholder related residents have come to the community primarily through contractor employment as well as through government and fishery related employment. At least a couple of current residents of Adak were stationed on the island during previous military service, and at least some had local experience as contractors to the military prior to conversion to a civilian community.

Total Population

Table 2.6-1 provides population figures for Adak, by decade, for the period 1970-2000. As shown, the population more than doubled between 1970 and 1990. Following the closure of the military facilities in the 1990s, however, the population of the community in 2000 was less than 7 percent of the 1990 figure.

Table 2.6-1 Adak Population by Decade, 1970-2000

Year	Population
1970	2,249
1980	3,315
1990	4,633
2000	316

Source: Historic data from Alaska Department of Community and Economic Development. 2000 data from U.S. Bureau of the Census

According to the AEC, Adak's population experiences marked seasonal fluctuations, and the community consists of approximately 200 to 225 permanent, year-round residents (S. Moller, personal communication, January 2002). During fieldwork in the fall of 2002, some local business persons in Adak estimated the permanent year-round population as much lower than these figures, but it is unclear whether individuals had different ideas about what constitutes permanent residency, if there had been recent changes, or if some persons were simply inaccurate in their estimates. What is clear is that there is considerable variation from season to season, and there has been considerable fluctuation over time due to the evolving nature of the community and the changes in the employment base over the course of that evolution. In terms of annual fluctuations, during the peak fishing seasons a substantial number of additional individuals come to the community to work at the processing plant. Another population spike occurs during "Navy contractor season" from June to September, as during that time contractors come to the community to work on various cleanup and transition projects. As the transition from military to civilian community has progressed, however, these numbers have decreased substantially in the last couple of years. These types of changes are

not limited to direct contracting work. According to Adak's mayor, the City has at present (2002) around 10 employees total, which is also a substantial decline from levels seen earlier in the transition process. Clearly, the population of the community is somewhat in flux as the transition to a civilian community nears completion and the nature of locally available employment changes.

Ethnicity

Table 2.6-2 provides information on the ethnic composition of the population of Adak in 1990 and 2000. As shown, in addition to a dramatic population reduction, the ethnic composition of the community has changed dramatically during the decade. For example, the Native American/Alaska Native component of the population approximately doubled in size from 1990 to 2000, and when combined with the overall population decline, this population segment went from comprising about 1 percent of the population in 1990 to about 35 percent of the population in 2000. It is important to note, however, that none of the Native American/Alaska Native residents identified themselves as Aleut in the 1990 census; therefore, even within this population cohort there has essentially been a 100 percent turnover between 1990 and 2000. All other ethnic groups showed dramatic reductions in absolute numbers, although Asian/Pacific Islanders gained in relative proportion of the population while other groups stayed about the same or declined. Preliminary interview data suggest that there is at least a small degree of population continuity over military - post-military time span among contractor-employed personnel, but this has not been quantified to date.

Table 2.6-2 Ethnic Composition of Population, Adak, 1990 and 2000

Race/Ethnicity	1990		2000	
	N	%	N	%
White	3,655	78.9%	157	49.7%
African American	501	10.8%	4	1.3%
Native American/ Alaskan	55	1.2%	111	35.1%
Aleut	0	0.0%	-	-
Eskimo	2	0.0%	-	-
American Indian	53	1.1%	-	-
Asian/Pacific Islands*	331	7.1%	37	11.7%
Other**	91	2.0%	7	2.2%
Total	4,633	100%	316	100%
Hispanic***	255	5.5%	16	5.1%

* In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 6) and Asian (pop 31)

** In the 2000 census, this category was Some Other Race (pop 0) and Two or more races (pop 7).

*** "Hispanic" is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).

Source: U.S. Bureau of Census

The group housing situation in Adak is markedly different than in Unalaska and King Cove.[25] While group housing in the latter communities has normally been associated with the seafood processing workforce, in Adak group housing was associated with the military. As shown in Table 2.6-3, 30 percent of the population lived in group housing in 1990 when Adak was still a military community, and none of the population lived in group housing in 2000 after conversion to a civilian community. At present (2002), only two housing units are occupied to the north or west of the airport runways, and virtually all of the community residents live in the Sandy Cove housing area in the southeast portion of the community. Table 2.6-4 provides 1990 census information on group housing and ethnicity for Adak (2000 census data for these variables are not yet available). These data are reflective of military population structure, and not of the contemporary civilian community (but are presented here for the sake of continuity of treatment with the other communities profiled).

Table 2.6-3 Group Quarters Housing Information, Adak, 1990 and 2000

Year	Total Population	Group Quarters Population		Non-Group Quarters Population	
		Number	Percent of Total Population	Number	Percent of Total Population
1990	4,633	1,391	30.02%	3,242	69.98%
2000	316	0	0.00%	316	100.00%

Source: U.S. Bureau of the Census 1990 STF2, Census 2000 Summary File 1

Table 2.6-4 Ethnicity and Group Quarters Housing Information, Adak, 1990

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	3,655	78.89%	1,066	76.64%	2,589	79.86%
Black	501	10.81%	222	15.96%	279	8.61%
American Indian, Eskimo, Aleut	55	1.19%	16	1.15%	39	1.20%
Asian or Pacific Islander	331	7.14%	53	3.81%	278	8.58%
Other race	91	1.96%	34	2.44%	57	1.76%
Total Population	4,633	100.00%	1,391	100.00%	3,242	100.00%
Hispanic origin, any race	255	5.50%	81	5.82%	174	5.37%
Total Minority Population	1,106	23.87%	361	25.95%	745	22.98%
Total Non-Minority Population (White Non-Hispanic)	3,527	76.13%	1,030	74.05%	2,497	77.02%

Source: U.S. Bureau of the Census 1990 STF2

[25] Similarly, Adak is not comparable to other regional communities in terms of the infrastructure or other physical attributes of a community both in absolute terms or in terms of ratios of various service units to population. Constructed to support a military-related peak population nearly 20 times larger than the current population, and to support technically and logistically complex air, surface, and submarine combat and support operations, the physical community of Adak is of scale very much larger than required to support its current civilian population and economy. This situation is not unprecedented in the region, as it very closely parallels the circumstances of Unalaska following World War II (although, in the Unalaska case, most military facilities were cordoned off from the community through the late 1950s).

Age and Sex

Table 2.6-5 provides information on age and the male/female ratio of Adak's population in 1990 and 2000. Perhaps counterintuitively, Adak has a greater male-fo-female imbalance as a civilian community (in 2000) than it did as a military community (with dependent families) in 1990. The predominance of males in the 2000 community population is attributable to a male-dominated transient workforce. Also, according to local residents, Navy policy did not allow non-directly employed personnel on the island until 1997 or so. As the large majority of contractors were male at the time, this had a marked influence on the male-female ratio. As an example of recent changes in the demography of the island, one current resident characterized herself and a relative as "the first two wives on the island," an event that occurred a few months before the main civilian population relocated to the island. Also, according to local residents, Navy policy discouraged civilian families with children from coming to the island for a substantial period of time due to unexploded ordnance dangers (a stance that some found inconsistent with the previous presence of large numbers of military families), and this has also had an impact on the sex and age structure of the present community.

Table 2.6-5 Population by Age and Sex, Adak: 1990 and 2000

Attribute	1990		2000	
	N	%	N	%
Male	2,777	59.9%	205	64.9%
Female	1,856	40.1%	111	35.1%
Total	4,633	100%	316	100%
Median Age	NA		35.2 years	

Source: U.S. Bureau of Census

The Adak school, part of the Aleutian Region School District and operated by the REAA, is a kindergarten through grade 12 facility. School enrollment figures for the years since Adak became a civilian community are presented in Table 2.6-6. As shown enrollments have fallen substantially from a high of around 50 students during the first couple of years the school was reopened to around 20 at present, a decrease of around 60 percent. According to school staff, this drop is likely associated with the changing nature of work and contracting on Adak. Over the last few years, contracting has been more focused on unexploded ordnance cleanup, and these crews tend to be comprised of individuals from outside who rotate through the community. In contrast, earlier environmental remediation work involved larger numbers of individuals who brought their families to the island with them, and a greater percentage of the direct work was accomplished through the regional Aleut Corporation or its subsidiaries which, in turn, attracted a higher proportion of workers from communities within the region. As this work has wound down and the associated contracting employment opportunities have dropped off, a number of families with school-aged children have left the community, at least some of whom have apparently returned to their previous home communities within the region.

Table 2.6-6 Adak School Enrollment, 1993-2002

School Year	Student Count
1998-1999	48
1999-2000	51
2000-2001	36
2001-2002	27
2002-2003	19

Source: Data supplied by L. Giddings, School Assistant, October 2002.

Local Economy and Links to the Crab Fishery

The Aleut Corporation is currently developing Adak as a commercial center and a civilian community with a private sector economy, and this development focuses heavily on the potential for commercial fishing, and support of commercial fishing activities, in the Western Aleutians area of the Bering Sea and the North Pacific Ocean. One indicator of the direct involvement of the Aleut Corporation in the community may be seen in the fact that the President of the Aleut Corporation, who also serves as the executive director of the Adak Reuse Corporation, has moved to Adak to help support these efforts. The nearest neighboring community is Atka, which also participates in commercial fishing, but with a strong focus on halibut as opposed to the broader range of fisheries pursued on Adak. Unlike Adak, Atka is a CDQ community (and an ANCSA village, also unlike Adak). There is concern on the part of the community of Adak and the regional Aleut Corporation, the developers of Adak, that the development of fisheries-related opportunities in Adak be undertaken in such a way as to not adversely impact present and future opportunities in the community of Atka.[26]

Other local economic activity in Adak includes contract work performing environmental cleanup of the former military facilities. Visitor attractions include wildlife such as seals and otters, caribou hunting, fishing, hiking and World War II military installation facilities. With approximately 16 miles of paved roads, and other gravel and dirt roads, accessibility to lands outside the immediate community is relatively good for the region.

[26] It should be noted that villages within the region encompassed by the Aleut Corporation belong to two different CDQ groups, the Central Bering Sea Fisherman's Association (St. Paul) and the APICDA (Akutan, Atka, False Pass, Nelson Lagoon, Nikolski, and St. George). Adak and Unalaska are not CDQ communities, but Unalaska participates in APICDA programs as an *ex officio* member. This being the case, Aleut Corporation interests on fisheries development issues in Adak may not be identical to the interests of each CDQ group or community in the region, although Aleut Corporation shareholders make up a greater or lesser proportion of the population of every community in the region.

Further, some residents of Adak have cited benefits received by residents of Atka as a result of the development of Adak, such as bringing local fuel prices down and increasing the availability of air and surface transportation. However, it is known that at least in the past there was some ambiguity on the part of Atka residents regarding potential positive and negative impacts of having Adak develop as a community in the same general area, particularly in terms of fishery development-related issues. In the absence of discussions with Atka residents, it is not clear whether the benefits of the development of Adak are now perceived to outweigh the possible regional competition costs to the community of Atka. Additionally, there were some indications that at least some residents of other communities in the region were of the opinion that the development of Adak and the fostering of fisheries development in Adak may be "taking another slice" out of a limited pie, meaning that any gains by Adak would be losses from other (established) communities. Again, however, it is not known how widely held or deep these types of concerns are. As many residents of at least a majority of other regional communities are Aleut Corporation shareholders, theoretically there would be at least some direct benefit to these individuals of the successful redevelopment of Adak, but how these unknown gains compare to potential competitive losses is unclear.

In a number of ways, the dominant economic entity in contemporary Adak is the AEC. According to its Executive Director, the AEC has received funding in the neighborhood of $10 million from the Navy over the last few years to caretake, operate, and downsize the facilities at Adak during the transition period. A number of these tasks have been, in turn, subcontracted out to other entities, including the City of Adak. In one way or another, the AEC is involved in most economic activities in the community either as an active participant or as a landlord.

Like other communities in the region with commercial development, Adak's economy is marked by seasonal variation. Rather than being nearly exclusively fisheries driven as is the case in other communities, however, locals report that there are two main "seasons" on Adak: fishing season and "contractor season." Local fisheries activity peaks in the first few months of the year when cod effort is most intense and overlaps with crab and other fisheries, although there are secondary peaks at other times during the year.

"Contractor season" refers to the peak summer activities of Department of Defense contractors associated with environmental cleanup of the former military facilities and the disposal of unexploded ordnance from previous military use. In addition to being in transition from a former military community to a civilian settlement, Adak's economy is in transition as contractor-oriented activities decrease and fisheries activity (and other private sector activities) increase. In earlier years, contracting workforces were considerably larger and contractor personnel support services were more extensive than is now the case. For example, there used to be a galley operation to support the crews, but this service closed in September 2001. Contractor personnel have to a large degree remained self-sustaining or self-contained vis-a-vis the rest of the community; however, as personnel now typically prepare their own food from supplies they arrange to have brought in on the barge or via air freight. (Some contractor personnel do make at least some local store or restaurant purchases, and at least some hunt and fish locally and/or purchase fresh fish off of local vessels.) At present (2002), contractors arrive around the last week of May, with full crews present in the community by the first week of June. Numbers of workers present drop off in September, but at least a skeleton crew is present in the community through the last barge at the end of November. According to local Navy sources, up to about 70 total contracting personnel were present in Adak in 2002, but this varied during the season with around 60 present for the early part of the summer, and around 40 present through September. These numbers are expected to be considerably lower in 2003 and beyond, with the bulk of the unexploded ordnance cleanup around the community completed. Tentative plans call for between 15 and 20 personnel to be present in 2003 to work on petroleum-related cleanup around the community. Like processing personnel who work in Adak, seasonal contracting personnel are typically hired from elsewhere, with the prime contractor and subcontractors hiring from a wide region, including Anchorage and the Lower 48. The focus of the contractor work for the Navy has been to create conditions that will support a "finding of suitability of transfer" of the 47,000+ acres from the Department of Defense to the USDOI (and subsequently to the Aleut Corporation and ultimate users/purchasers), and as such this work is self-terminating.

Adak is the site of considerable USFWS activity and will remain so after land transfer occurs. One of two staffed subunits within the Alaska Maritime NWR (along with the Pribilofs), while there are only three permanent, full-time employees assigned to Adak at present (2002), the community serves as a critical logistics base for USFWS field camps and operations elsewhere in the western Aleutians. Upwards of 100 USFWS personnel pass through Adak during the May through September field season and these individuals may spend from 2 weeks to a month in Adak before heading to their ultimate field site. Additional personnel are assigned directly to Adak seasonally, and the USFWS Adak facilities and personnel are also used to support natural resource studies (and/or management) by a variety of entities, including NMFS, the U.S. Geological Survey, the State of Alaska, and various universities.[27] USFWS visitor services have changed in

[27] Such inter-entity cooperation is common in the region, as NMFS and the USFWS share facilities and personnel resources in the Pribilofs as well. The USFWS also works with the U.S. Coast Guard on Attu, and the National Park Service that manages some of the historic military resources in or around the Alaska Maritime NWR, including submerged cultural resources (primarily sunken

Adak as the community has changed. Formerly an NWR headquarters with a staff of between 15 and 25, there is also a relatively large visitor center in Adak that is not currently in use. Designed to provide services to a community of over 6,000 persons, this facility cannot be efficiently run with the current small staff and relatively low post-military visitor service demand. Alaska Maritime NWR headquarters are now located in the community of Homer, but local maintenance and carpenter shops are still used to support ongoing operations. In terms of present demand, from October 2001 to October 2002, the Adak USFWS facilities saw 210 visitors from cruise ships (a form of visitation new to the community), 150 general visitation contacts, and 275 participants in the unexploded ordnance awareness program run by the USFWS (also known as "blue card" training). Participants in the blue card training included about 150 fish processing workers (including personnel from the local shore plant as well as floaters that were in the community at least temporarily), 100 Navy contractors, and 25 members of the general public.

According to senior Aleut Corporation officials, one of the challenges in creating a private sector civilian economy has been the transition from a outside contractor to a resident worker configuration. Typical contracting positions pay relatively high hourly wages and include subsidized housing and free utilities. With the transition to a truly local economy, the wage rates seen in contracting cannot be maintained, nor can the type of housing and utility subsidies that were previously common, and this has reportedly been a difficult adjustment for a number of residents or potential residents. In addition to fishery, fishery support, federal, and federal contractor related local economic activities, the Aleut Corporation is attempting to foster the development of secondary economic sectors based on research and oil development support in the Russian far east, among other undertakings.

Harvesting

As a new civilian community, Adak does not have an established residential fishing fleet. According to field interviews, there are at present (2002) two fishing vessels owned by full-time residents of the community. One of these vessels, a 32 footer, has reportedly not yet fished much around the community but is set up for jigging cod and longlining halibut, while the other one, a 24 footer, has fished Pacific cod within the 3-mile limit. (A third boat in the 22- to 24-foot range is also present in the community but has apparently not been active in the most recent seasons.) A fourth vessel, a 40 footer, is from Kodiak but is considered by some as a local boat because it has been present in Adak for over a year and has locally fished black cod and halibut. According to local residents, at least some other vessels "have painted Adak on the transom" in the recent past but are owned and operated by individuals from outside of the community. At least two IFQ holders were resident in Adak but have more recently left the community, and this past year (2001) three 58-foot vessels targeting halibut and black cod spent the period from May through October/November in the community. While the current, truly local fleet is still somewhat fluid and few in number, the community is actively promoting the growth of a small boat fleet, and a larger number of persons who spend at least some time in the community are fishing there. According to community sources, four or five small vessels (under 60 feet) participated in local fisheries in 2001. Most deliveries to the local plant, however, are made by larger boats from outside of the area.

It is locally anticipated that area small boat set-asides that the community successfully lobbied for with the Board of Fish, particularly in combination with relatively poor returns in the Area M salmon fisheries, will make Adak fishing opportunities attractive to small vessel owners from the Alaska Peninsula/Eastern Aleutians area. According to the AEC, there have been specific efforts directed at recruiting fishermen to make the transition to the area, and a total of between 8 and 12 small vessels are expected to fish locally in 2002. Local entities strongly desire the growth of a local small boat fleet and the development of a year-round day fishery.

vessels) around Kiska and Attu.

The community is also attempting to attract more vessels to the area with small boat harbor improvements. Currently underway, this project would result in approximately 4 acres of a 30-foot depth that would be out of all seas, although sheltering from all winds is not possible in this area of the harbor. Current harbor facilities, while extensive, were designed for larger military vessels and are not well suited for a small boat fleet.

One recent development in the harvest sector has been the formation of the Adak Native Fisherman's Association. As of the time of fieldwork for this project (October 2002), this entity had not yet had a general membership meeting but had held an initial board meeting a few weeks earlier. As a Native entity, it will qualify for some types of funding not available to non-Native entities, with the drawback being it is at least initially not inclusive of the entire community (given that the majority of Adak's population is non-Native).

Processing

While the current processing operations on Adak have a relatively short history, processing did take place on the island at least sporadically during the time it was a military base. While systematic research on this topic has not been undertaken, according to interviews conducted for this profile, crab processing took place in the Finger Bay area. Reportedly, while these operations were some distance away from the military area, spouses of locally stationed servicemen occasionally worked at these operations to earn some extra income (and to bring home crab) when processing operations found themselves short of personnel (as apparently did service personnel themselves, although less frequently). Reportedly, processors were either allowed or not allowed to operate locally in any given year depending on the policies of the individual Adak installation command personnel present at the time, but former servicemen spoken to recall processing taking place when they were in Adak in the late 1960s and early 1970s, and then again during fall seasons in the late 1970s. Given base security issues, processing personnel had very little interaction with the military community at Adak, although reportedly processors were sometimes allowed to visit the Post Exchange under escort. Crew transfers also required Navy escort at that time. One former serviceman reported that he earned income from processing operations in the then 1970s by providing mail pickup and trash dumping services on a weekly basis.

At present, there is a single shore processing plant in Adak, and despite a short history of operations it has seen a number of ownership changes since its inception. The plant was started by a partnership of two individuals who responded to an invitation for proposals from the Aleut Corporation. Operating as Adak Seafoods, the first processing took place in this plant in late February 1999. The plant continued to operate under this name until the summer of 2000. In mid-July 2000, Norquest became a partner in the operation with one of the original owners, and the plant did business in this manner until late July 2001. The individual still active from the original partnership took the plant back over for period of August through December 2001. In January 2002 Icicle Seafoods became a partner in the operation, which is currently operating as Adak Fisheries, LLC. Despite these changes, one of the two individuals who started the plant is still active in its ownership and operation.

The plant operates in two 150-foot by 180-foot leased bays in the "Blue Shed" building adjacent to Pier No. 5 on the north shore of Sweeper Cove at the south end of the main community area.[28] Adak Fisheries also leases cold storage space in a building just east of the Red Shed along Sea Wall Road. Cold storage capacity

[28] There are 12 such bays in three similar buildings adjacent to Piers No. 3 and 5. The "Red Shed," furthest to the east, houses City transportation-related equipment and operations; and the "White Shed," the middle of the three, is used primarily for storage. The Red Shed, which houses Adak Fisheries operations in its two southernmost bays, is westernmost of the three. Adak fisheries currently (2002) has administrative offices in a building between the Blue Shed and the White Shed, but construction is currently underway to allow the offices to move into the Blue Shed next to the processing operations.

is supplemented by the use of vans or containers stored adjacent to the processing facility, both for additional space and to help control utility costs.

It appears that the 1999/2000 operation primarily bought and processed cod, with some crab as well. In 2000/2001 the crab component (in terms of percentage) was increased and the overall amount of cod (in absolute terms) was increased as well. For 2001/2002 the operation has again substantially increased its throughput, especially for cod once Icicle acquired its interest in the plant. During this year (2002), main species run at the plant are Pacific cod, halibut, sablefish, brown crab, red crab, and thornyhead idiot. Pacific cod is characterized as the major species run by the plant, followed by crab, then by halibut and black cod.

In terms of an 'annual round,' the first vessel that will be fishing brown crab typically shows up in the community on January 2. On January 15, Pacific cod opens, and the first delivery is taken at the plant around the first week of February. About a dozen vessels, both longliners and trawlers, make deliveries. Around the third week of March, halibut and sablefish deliveries begin and, while Pacific cod processing drops off in March, crab does not normally finish until April. The local (western Aleutian) crab fishery was characterized as slower than in the eastern Aleutians and has been generally open August through April (although the plant does not process crab during that entire time). In contrast to the crab fishery, the local cod fishery is characterized as faster than in the eastern Aleutians. The local halibut and sablefish fisheries continue through August, along with thornyhead idiot, before the fisheries for other species become too busy. Crab deliveries to the Adak plant generally start again during the last week of August or the first week of September, and last year (2001) there was a short state test fishery for red crab opening in November. The last boat of the year typically delivers around December 18 or 19, and the plant shuts down for the rest of the year.

In terms of employment cycles, during the most recent year (2001-2002) approximately 98 employees were utilized during the busy January through March period, with about 23 or 24 employees being on site the balance of the year, except for when employment dropped down to about 8 cleanup, maintenance, and preparation personnel who are present when the plant is closed from about the third week of December through the first week of January or so. Housing is provided in approximately 30 former military housing units rented from the Aleut Corporation, with approximately 4 workers housed in most of the units during peak times. The processor does not have mess hall facilities, but workers receive a weekly food allowance and have kitchen facilities in their housing units. Workers are typically hired out of Seattle on a 6-month contract basis with many employees finding the company by word of mouth. At present (2002), there are no processing families in the community, but at least a few of the processors have been in the community for substantial periods of time, and at least one processing employee has become engaged with the community to the point of being on the local volunteer fire department.

There have been a number of changes each year during the relatively short period of time the plant has been operating in Adak, so there is some difficultly with characterizing a "typical" year. For example, during the 2002 winter season, Icicle's first year for cod in Adak, the shoreplant was supplemented with a floating processing capacity (the Discovery Star) during the cod season. The shoreplant was used to dress out all the cod landed but lacked sufficient freezing capacity, which was supplied by the floater. The floater was in Adak for 6 weeks, and during this time it served as a work platform for a good part of the "extra" or peak labor force. (It also served as a mess hall for the processing crew during their shift when there was not time for normal eating arrangements.) The floater was also used to load finished product onto a tramper alongside, easing temporary storage and transfer logistics. After cod, when the need for labor was reduced, the floater moved on to pursue herring elsewhere, taking its workforce with it. This was a short-term solution to the lack of freezing capability, and it is expected that it will be repeated only once or twice before new facilities are in place.

Local plant officials reported that approximately seven crab vessels have been delivering to the plant on a regular basis, with others less frequently. The cod delivery fleet includes a range of different vessel types. Several of the vessels delivering cod in 2001-2002 were 58-footers from Sand Point. (Vessels from Sand Point in particular have reportedly found conditions in Adak relatively attractive given the Area M and Steller sea lion-related challenges in their home waters.) A rough estimate of 10 AFA-qualified trawlers (90 to 130 feet) fish their cod sideboards and deliver to Adak. Also as a rough estimate, about two-thirds of the cod landed locally was delivered by the AFA-qualified vessels. Boats from the Aleutian/Alaska Peninsula region deliver halibut and sablefish, as do vessels from outside the area, but information on the number of vessels and IFQ holders selling to the plant is imprecise. The pattern described is one where several IFQ holders will essentially pool their shares and fish them on one boat, to minimize expenses and maximize profits. The boat(s) fished can vary from trip to trip.

The relationship between the plant and the community is somewhat different than that seen for other communities profiled, as Icicle has entered into a long-term relationship with the Aleut Corporation, which, in turn, directly and through subsidiaries owns, manages, and/or operates much of the community infrastructure and property. This relationship gives Icicle exclusive abilities with respect to some local processing and in return requires that Icicle support attempts to build a local fishery by agreeing to essentially handle landings for all local fisheries as well as to pay prices pegged to regional norms established in Dutch Harbor.

The community has also seen at least some crab and groundfish activity related to other seafood firms, but nothing that has been stable over time in a manner similar to Adak Fisheries. A number of offloads by both groundfish and crab catcher processors have taken place in or near the community, with Pier No. 3 being used several times for this purpose. It is also not uncommon to have freighters moored near the community awaiting loads. The relative importance or magnitude of these activities can be seen in the fact that during 2001-2002, nearly one-fifth of total state revenues received locally derived from resource landing taxes. The fact that vessels cannot typically clear Customs in the community, however, does serve as a limiting factor on potential foreign trade/economic activity.

Support Services

At present, virtually all of the facilities on the northern part of Adak Island, which encompasses the City of Adak, are still owned by the Navy. Private businesses that wish to operate in these facilities at present (2002) typically sublease facilities from the AEC. (Apparently the only exception to this generalization is the Veterans of Foreign Wars [VFW] hall, which leases its facility directly from the Navy.) According to some business owners, this arrangement has served to slow support business development in the community because at the Navy's direction, all leases have provisions for rapid termination should the land transfer process not take place as anticipated, making investment in the new community even more of a risk than would otherwise be the case. Additionally, there is some uncertainty about the ultimate ownership of lands in the community, such as whether businesses will be able to purchase buildings but would be restricted to leasing lands from the Aleut Corporation rather than being able to purchase them, and so on. The same holds true for housing at this point (i.e., whether or not land could be purchased with the housing units, and what the roles of the Aleut Real Estate Company, Aleutian Housing Authority, banking institutions, or other entities will be in the process of transitioning to private ownership and use, whether or not there will be lease to purchase provisions, and so on).

Adak is in the process of developing support service capabilities for the fishing fleet. According to the AEC, the initial transition to a civilian community took place in phases as the Aleut Corporation and it subsidiaries took over support service infrastructure, starting with fueling and then moving into housing, followed by port facilities. One challenge the community faces is that, according to local business owners, vessels that have

fished in the Adak area in past years are used to being self-sufficient and may not realize that supplies and services are now available locally or, even if they do have an awareness of availability, still have established relationships elsewhere.

Adak has become the main marine refueling station for the adjacent portion of the North Pacific. The island's underground tank farm has a storage capacity of approximately 22 million gallons of marine diesel, bunker grade fuel, gasoline, and jet fuel. Local fuel services are run by the AEC. Although the AEC formerly was engaged in a number of different enterprises and still rents out vehicles in the community, it is now (2002) reportedly focusing primarily on fuel sales and is attempting to divest itself of what are considered to be more tangential ventures. According to local staff, the ongoing basic storage capacity is around 2 to 4 million gallons at any one time. Currently (2002), the facility has five employees, and a rough estimate of the ratio of fuel sales to vessels versus other (community) users was given as between 70/30 and 60/40, with the local power plant accounting for a large portion of sales within the community. This ratio is expected to climb on the marine sales side, given that efforts are underway to scale down local power plant operations to better match demand that is much less than was needed when the former military power plant was constructed. While the shore processor itself is on the main power grid, not all of its operations create demand from the grid. For example, it has provided for some of its cold storage capacity through the use of vans or containers with their own generating capabilities. While offshore catcher-processor and mothership entities do call on the community, there is reportedly relatively little fuel sales to that component of the fishery compared to their overall presence. Among the harvest fleet, most sales are reported to be to Seattle and Dutch Harbor vessels. Fuel sales have reportedly picked up in recent years in direct relation to the easing of Navy restrictions on access to the island. In addition to fuel sales, the Adak facility also stocks oil and filters for vessels, and it can take used oil from vessels as well.

Constructed to accommodate U.S. Navy vessels, the port facilities on Adak, consisting of three deep water docks and fueling facilities, can support a wide variety of civilian vessels. Research ships, station work vessels, cruise ships, factory trawlers, and fishing boats use the port facilities at Sweeper Cover and Kuluk Bay. At-sea processors have used the port for transfer of product as well as a supply stop, and this has generated opportunities for shippers. At present (2002) there is no small boat harbor in the community, but it is a priority for the community.

Adak's aviation infrastructure also benefits from its military airfield history. Its airport, Mitchell Field, is the largest airport in the Aleutians and is equipped with IFR electronic navigation and weather reporting systems. Support features include control tower and terminal buildings, paved taxiways and aircraft parking areas, maintenance hangers, and a fire and crash station. During the current (2002) transition period, the airport is managed and run by the ARC, although plans call for this entity to dissolve upon successful transfer of lands to the Aleut Corporation.

Commercial cargo jet service is currently (2002) provided by Evergreen International Airlines, and Peninsula Airways serves the community for passenger flights from Anchorage 4 days per week during the summer and 3 days per week in the winter. Several air cargo companies also make Adak a refueling destination on their flights between Alaska, Eastern Russia, and Sakhalin Island. Air carrier employment in Adak is limited to one PenAir employee, and one individual who serves as the agent for Evergreen and who also handles ramp and baggage services for PenAir. The latter individual has recently taken on a second employee, and others assist during peak times as well.

In terms of direct support to the fleet, in addition to basic port services, Adak offers a limited number of "soft" support services such as facilities for crew transfers, and storage for supplies and product. A full support sector with entities providing a wide range of services such as hydraulic, electronic, and electrical systems service and repairs has not yet developed.

One of the existing dedicated specialty support service businesses operates out of a former military machine shop, and the person who runs this operation offers machining, welding, and fabrication services. The only tool and machine shop west of Dutch Harbor, while this enterprise is also the only welding business in Adak, there are others in the community who can provide welding or fabrication services for small jobs or in an emergency, including personnel at the processor. As a civilian entity, it was originally started as an operation to support cleanup contractor operations; the business now has a contract with the City for improvements on Piers 3 and 5, including the fabrication of access ladders. Over the past year, this business has seen trade from fishing vessels, with more substantial work on two vessels in particular, and some cable/drag line fabrication, welding piece work, anchor repair for another couple of vessels, and some "nickle and dime" work on two others. In terms of the relative importance of vessel work to date, the owner of the business characterizes vessels as providing "a little on the side" so far, as there are not enough vessels in the community to provide significant income. Also, according to the business owner, income potential from vessels is limited by the fact that a number of owners or operators are as of yet unaware that machining services are available in Adak. For example, one vessel this past summer did without a part on a net sounder for a month, only discovering the availability of these types of services just before the end of the season. Vessels needing types of work requiring haul-out, floating dry dock, or other substantial waterfront service infrastructure typically seek out services in Dutch Harbor or beyond. It is conceivable that these types of services could be developed in Adak through a partnership of existing service providers and the City, but none are available at present. Apparently during the Navy years, temporary vessel repairs, such as patching, could and would be performed at Adak using salvage and repair divers, but actual repairs would take place in Washington. Reportedly, there is one individual present in Adak who has done some vessel work-related diving, but this individual is not trained as a welder, so typically even temporary in-water repairs require repair divers to be flown out from Dutch Harbor. At present, the machine shop and its equipment are still owned by the Navy, and the business proprietor will enter into a new agreement for lease of the building and use of the equipment when the land transfer is concluded. Typically a one-man operation at present, another individual who has a full-time job with the City is also helping out with the fabrication of some of the pier equipment (and others may be added during peak work loads). Such moonlighting is common in the community where individuals with specialized skills are in short supply and a variety of fishery-related support services are needed. For example, one of the electricians for the City sometimes is called upon for help at the processing plant, and one of the individuals who works in the transportation department at the City is sometimes called upon to do mechanical/diesel and hydraulics work (and the City has the only facility in the community that can press hydraulic fittings). In fact, the operator of the machine shop is an exception to the rule on Adak, having one enterprise as an exclusive focus (although the enterprise does provide a variety of services.) During busy fishing seasons, one outside support firm has flown out an individual to help for a month or two, but otherwise fleet support services are handled primarily by the individuals or enterprises mentioned, or through the local processor.

Other direct fisheries support businesses have shown interest in locating in Adak. While a larger number have made inquiries, two commercial fishing/trawl supply companies, one domestic and one foreign based, have visited the community within the recent past. Reportedly both (and likely other firms) are awaiting land transfer prior to making a commitment to locating in Adak.

The local general store, known as the Ship's Store as well as the Adak General Store, is an enterprise of the Tigara Corporation (an Alaska Native village corporation entity based in Point Hope, on the North Slope). It is located in a former community housing administration and support building in the Sandy Cove housing area leased from the AEC. According to local staff, the store has been in operation for approximately 3 years. It is the only general store in the community and, according to the store manager, it derives approximately 90 percent of its business from the fishing industry and about 10 percent from local year-round residents. Store sales to vessels are sometimes facilitated through the local processor in the form of a purchase order

that is then settled out of vessels delivery of catch to the processor. The store does not receive business from all vessels associated with the community, as a number of the vessels that harvest or deliver locally will resupply in Dutch Harbor potentially as a result of several factors, including established business relationships (and/or other operating cost/benefit factors, such as fuel prices and fish prices). In addition to sales to vessels calling on the community, the store sees a considerable amount of fishery-related business from processing workers. Unlike the situation seen most by other communities, processing workers on Adak do not eat in company mess facilities and so patronize the store for basic foodstuffs. Although workers do bring or ship in some staples, the influx of around 100 processors during the first quarter of the year, each with a weekly food stipend, represents a significant increase in business at the store. The facility manager estimates that roughly 60 percent of total business for the year is seen in the first quarter of the year when fisheries activities are at their peak. There is reportedly some sales increase with the additional personnel in the community during "contractor season" but this is reported to be relatively minor as these employees apparently ship in a great deal of their own food. Among challenges faced by the store, as reported by the manager, is the lack of frequent, reliable barge service. This results in stocking and cost issues. For the store to be able to service vessels, plans must be made far in advance and additional freezer space leased from the ARC to ensure adequate inventory on hand. It also equates to high costs for fresh food, with the store manager citing air shipping costs as $11 on a single gallon of milk and a round $1,100 on $500 worth of produce. Other challenges in the recent past have been a reliable power supply, with concern that an interruption of service would result in the loss of most of the store inventory this past year. Store employment also varies seasonally. During the busy season the store will employ the manager, a checker, and a bagger, but during the slow season employment may drop to the manager and his spouse.

There is a single restaurant in the community (the "Bake and Tackle") that is housed in the former Navy base McDonald's restaurant building. As the name implies, the Bake and Tackle is a multi-faceted business, with fishing gear and some other merchandise available in addition to foodstuffs and cooked meal services. Limited food service is also available evenings at the community's only bar, the Capt. Pat Kelly VFW hall. As a designated "commercial VFW," the Adak VFW, unlike most VFWs, is open to the general public. Despite the "commercial" designation, the VFW is run as a non-profit entity, with at least a portion of revenues generated returned directly to Adak and its nearest neighbor, Atka, in the form of funds for community benefit programs.

The Bake and Tackle and the VFW are run by the same couple, usually with one additional employee at the Bake and Tackle, and several additional employees at the VFW. VFW employment, in addition to the full-time owner/manager includes a part-time bookkeeper and bartending and cook staff. Approximately 14 persons are signed up as available staff, but according to the manager approximately 3 are actively employed at any given time. (Both of these businesses provide good examples of how Adak residents tend to combine employment/income opportunities. The woman who is primarily responsible for the Bake and Tackle also runs a house cleaning service, employing the same person who helps out at the restaurant. The man who is primarily responsible for the VFW also does some engineering work in the community in addition to being involved in the other enterprises.) Both the Bake and Tackle and the VFW see a considerable amount of fishery-related business. According to the owners, more business is generated by cod and halibut fishermen, however, than by crab fishermen. In addition to the restaurant trade, the Bake and Tackle also supplies boats with foodstuffs, including fresh vegetables and milk, often on short notice. The restaurant (and the VFW) also sees a significant amount of business from processing workers. Unlike most other shore-based processors in the region, the Adak processor does not have a mess hall or other food service facilities for its employees. Rather, processing workers are given a weekly food stipend and have cooking facilities in their housing units. According to the business owner, the restaurant sees approximately 60 percent of its business from summer contract (primarily base cleanup) workers, about 30 percent from supplying boats, and about 10 percent from city residents.

The pattern of involvement in multiple types of employment or businesses in Adak is not uncommon, given the small size and nature of the community. For example, the community's only police officer is also involved in overseeing city operations and functions as part of a three-person city management team with the mayor and the city finance director. He also is involved in a number of private business ventures as well, including small video store (Blue Card Video[29]) located in the high school building, and this is the same individual who acts as an agent for the cargo airline and provides baggage and ramp services for the passenger airline that together provide some employment for two additional individuals. Another example is the community fire chief, who is also the harbormaster as well as a commercial fisherman.

Another small business in the community that functions as a fishery support business is Zac's Enterprises. Run by a couple, this business provides crab pot hauling among other services. (Crab pots are stored on AEC land for a rental fee, or for free on land leased by the local seafood processor as a service for delivering vessels.) As presently configured, the loader can handle four pots at a time, and the company has recently acquired a 50-ton crawler crane that is used to haul small vessels. Last year (2001), this company also provided boat watch services for three vessels over the 2-week Christmas break, and for another vessel for over 2 months. The individuals in this business were also involved in building the small floating dock in the harbor and noted that as facilities improve for small vessels in Adak, there will be significantly more support service opportunities than there are at present. This enterprise also facilitates crew transfers for factory trawler vessels, including providing logistical support, and arranging temporary housing for crews in transit. They also provide offshore mail and parts expediting services. Like other small businesses on Adak, Zac's provides a variety of non-fishery services as well, such as snow plowing, and is involved in other employment in the community, including air transportation services.

The excess community housing supply has provided other support business opportunities as well. For example, the Hotel Adak is an enterprise that operates a total of 18 housing units leased from the AEC (that, in turn, obtains them from the ARC, which holds the master lease), of which 12 are active rentals, 1 is occupied by the hotel operators, 1 houses the hotel housekeeper, and 4 are inactive at present (2002). According to the operator, the hotel does get fisheries-related business through crew transfers and others transiting through the community, with an estimated 15 percent of the overall hotel business attributable to such use, with the opportunity limited by the relatively small size of the current fleet. Most of the hotel fishing-related business is from larger vessels, including factory trawlers, as crew shifts on the smaller catcher vessels can be easily accommodated using the housing leased by the shore processor. Most of the current hotel business derives from government contractor use, primarily with transient managers as the guests. As for larger contracting operations, the general crews are housed in blocks of leased units separate from the hotel operation itself. (The local housing supply also functions as a direct fishery support service separate from the hotel as, for example, Adak Fisheries/Icicle Seafoods is leasing about 30 of the housing units in the community.) The hotel business has marked seasonal peaks, with the winter being very slow, except for the occasional vessel crew that gets 'weathered in' in the community. The units used for the hotel are residential units in the Sandy Cove housing area (i.e., the same pool of housing units used for residences by the permanent population). While barracks type facilities may have been more suited for hotel operations, all things being equal, most of these facilities are reportedly not in current repair. According to the current operator, the specific future of the hotel enterprise is somewhat unclear due to unknowns related to land and building dispositions after transfer from the Navy. Like all other support business operators in the community, with the exception of the machine shop and the manager of the local store, the couple who operate hotel are involved in a variety of other support enterprises or community services, with one individual providing local cable, phone, and UPS services, and the other working at the clinic.

[29] The name Blue Card derives from the long-standing mandatory training on unexploded ordnance (UXO) required of individuals working or living on Adak. To document successful completion of the training, attendees were given a blue card. Classes were formerly held in the room the video store now occupies in the high school building. Today (2002) blue card training is given by USFWS personnel and is largely videotape based.

The AEC is currently pursuing an approach of providing the larger support service building blocks, such as fisheries development, fuel services, and port services, with the goal of providing a foundation or opportunities for the establishment of other support businesses in the community to help round out the local economy. The infrastructure inventory held by the AEC represents a very large asset for the community, allowing businesses to not have to start from scratch when coming to Adak. For example, Adak Fisheries leases (on a monthly basis at present [2002]) bays in the Blue Shed for processing, space in an adjacent building for office and storage space, space in the White Shed for storage, and space in the Cold Storage building.

The community clinic is also called upon to provide services to vessel crews. Like a number of other clinics in the region (e.g., the clinic in King Cove), the Adak clinic is run by the Eastern Aleutian Tribes. Located in several rooms on the first floor of the high school building, the clinic has a staff of two: an administrator and a physician's assistant. According to the clinic administrator, approximately one-half or less of the patient demand currently comes from fishing vessels. While during the military days Adak had a full hospital in the community, the current Adak clinic has more modest capabilities. For example, x-ray services are not available locally, meaning that individuals may have to be flown off island for what otherwise would be some relatively basic diagnostic services.

The community does see a minor amount of business related to tourism. According to one local business owner, in recent years three cruise ships came to the community, but little came of that as "the tourists had no place to spend their money." According to USFWS personnel, while there is promotion of tourism by local and regional entities, including the Aleut Corporation, cruise ships tend to end up in Adak as an alternate port if they are weathered out of their primary destination, as opposed to having Adak itself as a primary destination. Reportedly two of the ships were on west to east cruises and one was on an east to west cruise. Primary draws for these cruises have been the World War II military history at Attu and Kiska, the volcanoes of the Aleutians and far eastern Russia, and a retracing of Bering's route. Tourism also occurs in the form of hunters coming to the island for caribou, and the community sees some very modest economic gain from that activity.

As noted by several business owners, the support services sector of the local economy in particular, and the overall economy of Adak in general, will likely change once formal land transfers are complete, and current and potential entrepreneurs understand the ultimate disposition of lands and the opportunities available in the community. At least a few enterprises that have shown an interest in Adak (e.g., a water bottling operation was mentioned by a few residents) but have taken a wait-and-see attitude during the transition time. In the present context of uncertainty, it is difficult to anticipate the specific course of Adak's economy, but it is clear that fisheries development is the cornerstone of a sustainable economy for the foreseeable future.

The Municipality and Revenues

Information on municipal revenues parallel to that presented for other profiled communities does not exist. The community was incorporated in April 2001 and several months later instituted a 3 percent sales tax and a two-cents-per-gallon fuel transfer tax to form a revenue base. Through the sales tax, fisheries are expected to provide a significant portion of community revenues. There are no local property taxes in Adak. At the time of fieldwork for this project (fall 2002), no detailed tax information was yet available from the recently completed fiscal year (the first full year as a civilian community) and, according to City staff, there were a number of changes that took place during the first year that would make interpretation of quantitative data less than straightforward in any event.

In terms of relative expected contribution of fisheries to local municipal revenues, local projections for FY 2003 (July 2002-June 2003) show that approximately 92 percent of anticipated local revenues from state

sources are expected to derive from shared fish tax and landing taxes, and approximately 85 percent of direct city revenues are expected to derive from the fuel transfer tax, harbor fees, and sales tax revenues. Harbor fees are locally estimated to derive about 90 percent from commercial fishing-related wharfage and moorage (although this revenue source may change somewhat in the future as, according to city staff, ownership of dock facilities is "still being sorted out"). Overall sales taxes themselves are expected to account for about three-quarters of all direct city revenues and of these about three-quarters are expected to derive from local fish taxes.

In addition to state and city general revenue sources, the city also derives utilities revenue from fisheries-related activity. These revenues come from provision of utilities to the processing plant, including electricity, garbage service, and water/sewer services. Fisheries account for a significant portion of these revenues as well.

Despite being a new community, a new government, and a new fishery participant, it is clear that the community of Adak, as presently constituted, is substantially dependent upon commercial fisheries. This dependency has become relatively greater in the few years since the local plant opened, as this was the same time during which base cleanup and closure activities were winding down. According to City staff, however, the city itself receives no direct benefit (at least in the form of revenues) from cleanup activities. On the contrary, some city leaders argue that federal funding of military cleanup activities on Adak has actually put the city at a competitive disadvantage for federal funding of projects that would be of more or longer-term economic benefit to the community (as the cleanup allocations that are consumed by contractors and other off-island entities show up as federal funding to the city, and additional federal funds are all that much harder to come by).

At present, City priorities are conversion and downsizing of the former military power plant to more efficiently serve the community and the construction of a small boat harbor. Like other local institutions, the City of Adak is adjusting to the evolving nature of the community, recently (September 2002) having transitioned from a strong mayor form of government to a city manager form of government. According to senior City staff, there is also a high priority being placed on getting the City out of debt.

Summary of Recent Community Fishery IFQ/Co-op Rationalization Experience and Implications for Likely Crab Rationalization Impacts

Adak does not have first-hand experience specifically with IFQ and co-op rationalization programs in the same sense as the other communities profiled in this document as a result of the different general fishery histories in the communities. Essentially, the structure of the previously established programs in the halibut, sablefish, and pollock fisheries have served to exclude later developing Adak from those established fisheries. As a result, preclusion is a major issue or obstacle in Adak's attempt to foster a fisheries-oriented local economic base. Crab approaches based on historical participation, such as the system proposed under the rationalization alternatives, present similar challenges.

Although a community dominated by Aleut institutions (e.g., the Aleut Corporation and the AEC), and one that has featured major investments by these entities, Adak is not an ANCSA community and did qualify for inclusion in the CDQ program (and thus has no CDQ experience). Adak has a much different socioeconomic history than typical CDQ program communities in any case, as it has not experienced high levels of unemployment, poverty, and lack of economic development opportunities that were at least a partial impetus behind the formation of the CDQ program itself. Rather, the danger for Adak with the rationalization program is the preclusion of economic development rather than a lack of improvement for a chronically problematic economy. With no established history of processing until very recently, Adak does not qualify for substantial allocations under the general terms of the "three-pie" rationalization program. In recognition

of the developing nature of Adak's economy, however, and the central importance of the fisheries to that economy, Adak is being considered for a direct community allocation unlike those seen elsewhere in the program. Given the evolving nature of the community and its institutions, there was initially some question as to the appropriate entity to receive or administer a community-based allocation, but a new entity with a community-wide constituency will be formed for the purposes of administering this allocation.

The relationship between the community of Adak and Western Aleutian Islands (WAI) golden king crab (also commonly known as Adak brown king crab) stock exploitation is somewhat different than the other fisheries that are being considered for rationalization. When discussions of the rationalization program began several years ago, the WAI golden king crab stock was not fully exploited, and was not therefore in the same apparent need of rationalization as other stocks. For example, approximately 12 percent of the GHL was not harvested during the rationalization qualification period. More recently, however, (and especially since Adak shore processing operations have begun), the guideline levels have been fully exploited.

Differential Impacts of the Three Rationalization Alternatives at the Community Level

As summarized above, for Adak the engagement in, and dependency on, the BSAI crab fishery is based primarily upon ties to local processing activity while the community attempts to expand and diversify the commercial fisheries component of its economic base. Beneficial or adverse impacts to the community of Adak deriving from the different rationalization alternatives result from the differential outcomes for these activities.

Each of the rationalization alternatives have identical provisions regarding increased allocations to the CDQ program (inclusion of additional species and an increase in the included species set-aside from 7.5 to 10 percent of the total allocation), creation of captain's harvest quota shares (3 percent of the TAC), and a community development allocation to Adak. Each of these provisions are directed toward fostering beneficial community or social impacts for at least some groups or areas. Adak, as non-CDQ community, would not directly benefit from the CDQ program increases. Impacts of the creation of captains shares are not likely to be significant for the community of Adak, given the minimal local engagement in the harvest sector during the qualifying period.

Adak would experience significant beneficial impacts from the proposed Adak community allocation provisions, and is the only non-CDQ community that is receiving a community development allocation. Under each of the rationalization alternatives Adak would receive a community development allocation of 10 percent of the WAI golden king crab fishery. This would be an "off the top" allocation, and would be administered by a community group formed for this purpose.[30] The allocation would be a set-aside of harvest quota, and could be used in a number of ways to benefit the community. The overall GHL in this fishery has been 2.7 million pounds annually for the last several years, meaning that Adak's allocation would be 270,000 pounds at the current GHL. Over the period of 1990-2000, ex vessel prices have ranged from $2.15 to $4.90 per pound, implying gross revenues ranging from $581,000 to $1,323,000. The average ex vessel gross revenue in that period was $840,000 for the amount of crab included in the allocation (at an average price of

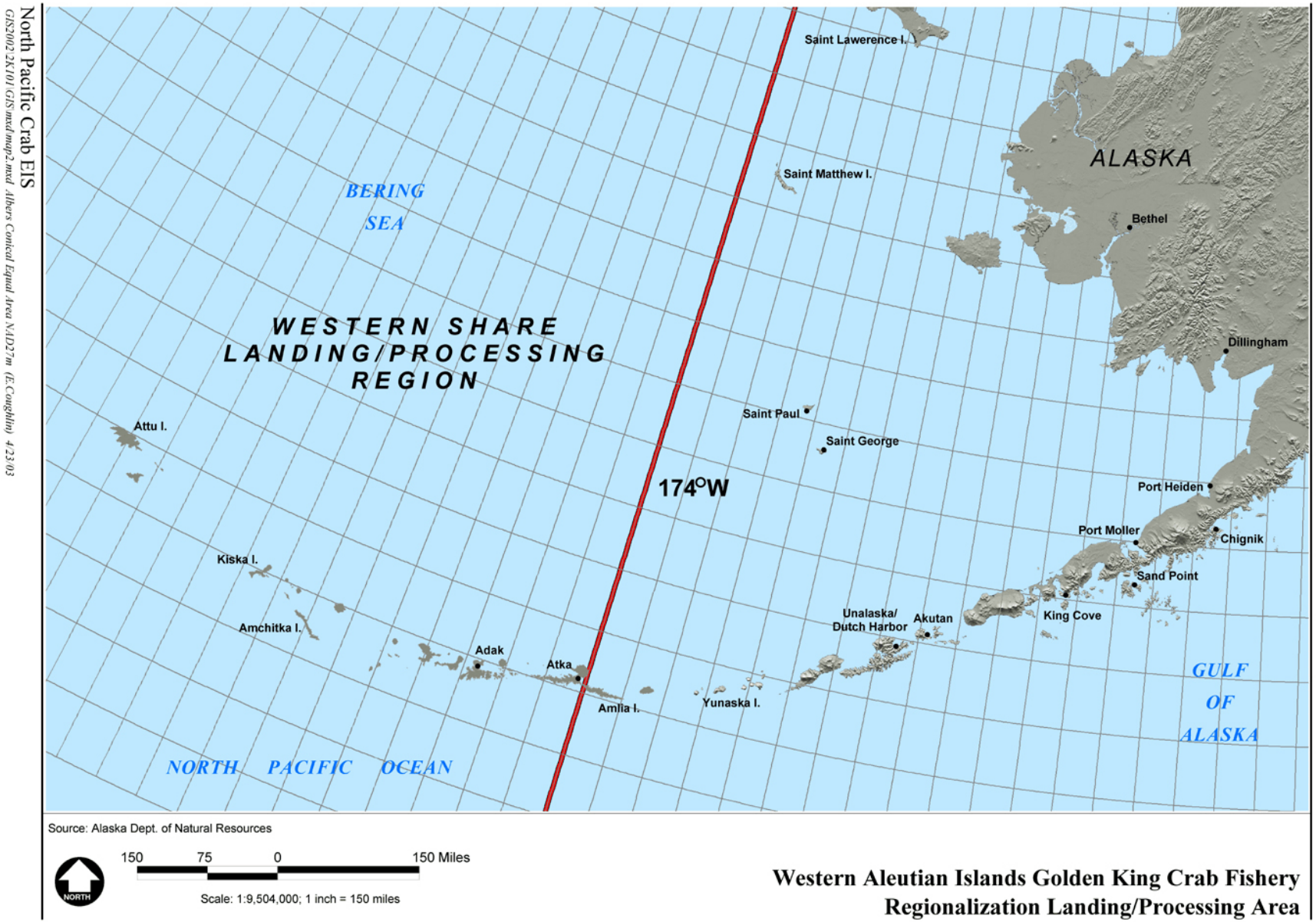
[30]The NPFMC motion incorporated into the Three Pie Voluntary Cooperative Alternative provides that an allocation would be made to the community of Adak from the Western Aleutian Islands (Adak) golden king crab fishery in an amount equal to the unused resource during the qualifying period. This allocation, however, would be capped at 10 percent of the total allocation in that fishery. Since approximately 12 percent of the GHL was unharvested during the qualifying period, the 10 percent cap would apply. The allocation to Adak would go to a nonprofit entity representing the community with a board of directors elected by the community. Shares could be held in trust by the Aleut Enterprise Corporation for a period not to exceed 2 years if the community organization is not formed prior to implementation of the program. Share holdings of the community organization would be governed by CDQ-type management and oversight to ensure the benefits of the allocation are realized by the community. This allocation is independent of any other requirements of the rationalization program (e.g., IPQ landing requirements, regionalization, or other community protections).

about $3.10 per pound). This would be a significant beneficial impact to the community, both in terms of revenues and in terms of increased engagement in the fishery.

Regionalization is a feature of the three-pie alternative and the IFQ alternative, but is not a part of the cooperative alternative. Regionalization is explicitly designed to create beneficial community or social impacts for at least some groups or areas. The north/south region designation was designed primarily to benefit the Pribilofs, while the west region designation in the WAI golden king crab fishery was designed primarily to benefit Adak.

In general, the north/south regional split would not appear to have significant impacts for the community of Adak, but the west region designation would have significant beneficial impact for the community. Under the regionalization provisions of the three-pie and IFQ alternatives (but not the cooperative alternative), 50 percent of the WAI golden king crab fishery harvest quota shares would be designated for delivery in a west region, defined as lands west of 174 degrees west longitude. This line would essentially mandate deliveries of half of the WAI golden king crab to sites along the Aleutian Chain beginning immediately east of the community of Atka and extending to the western end of the chain (see Figure 2.6-1 "Western Aleutian Islands Golden King Crab Fishery Regionalization Landing/Processing Area"). The remaining 50 percent of the harvest shares within the fishery would not be regionally designated, and could be delivered east or west of the line. While the community of Atka could benefit from the west region designation, and some of the crab could be processed by mobile processors in uninhabited areas in the west region, clearly the community of Adak stands to significantly benefit from the implementation of west region delivery provisions due to its having the only developed crab shore processing capacity in the region. Using the same period and average figures noted above, the west region harvest shares would equal approximately 1,215,000 pounds (that is, 50 percent of the remaining GHL following the removal of Adak's 10 percent community development allocation). Using the average price of about $3.10 per pound for the 1990-2000 period, this would be approximately $3,767,000 in ex vessel value of deliveries a year under current GHL conditions, of which Adak would be assumed to capture a substantial portion. Of course, value to the community would depend on actual GHL, ex vessel price, and delivery patterns, and these could be expected to vary considerably from year to year. Even though the impact cannot be quantified with a degree of certainty, this feature would clearly represent a significant beneficial impact to the community under the three-pie and IFQ alternatives. The cooperative alternative does not have a regionalization feature, so this type of benefit would not accrue to Adak under that alternative, and Adak may or may not lose relative share to processors elsewhere compared to baseline conditions, but it almost certainly would compared to likely outcomes of the three-pie or IFQ alternatives with their regionalization feature.

Under the three-pie alternative, if determined to be eligible, the community of Adak could benefit from the community protection provisions requiring a "cooling off" period of no movement of processing quota share out of the community. Adak, however, would not be eligible to qualify for right of first refusal provisions, as the unique allocation in the WAI golden king crab fishery was designed by the Council to protect Adak community interests in lieu of the right of first refusal. (Due to confidentiality restrictions, it cannot be disclosed whether or not Adak is deemed eligible for community protection provisions.) However, the community of Adak currently has more crab processing activity than was seen during the rationalization qualification period, so the "cooling off" period does not necessarily confer a net benefit to the community by itself. Adak is different from all other communities with respect to its relatively heavy dependency on the WAI golden king crab fishery and relatively light engagement with other crab fisheries. Under the IFQ alternative there are no direct community protection provisions (other than the waiver of sea time for community groups purchasing harvester shares). Otherwise, Adak would not benefit from community protection provisions under either the IFQ or the cooperative alternatives.


North Pacific Crab EIS
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Saint Lawerence I.
Saint Matthew I.
ALASKA
Bethel
BERING
SEA
WESTERN SHARE
LANDING/PROCESSING
REGION
Dillingham
Saint Paul
Saint George
Attu I.
174°W
Port Heiden
Port Moller
Chignik
Kiska I.
Sand Point
Amchitka I.
Unalaska/
Dutch Harbor
Akutan
King Cove
Adak
Atka
Amlia I.
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OF
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Source: Alaska Dept. of Natural Resources
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NORTH
Scale: 1:9,504,000; 1 inch = 150 miles
Western Aleutian Islands Golden King Crab Fishery
Regionalization Landing/Processing Area

Whether or not these community protection features provide neutral or positive benefits to the community depend on what individual operation's decision making process would have been regarding consolidation absent these provisions, which is unknowable. For example, without knowing confidential business information, it is not clear in the absence of community protection measures whether consolidation within the processing sector as a result of rationalization would increase or decrease activities in Adak.

The rationalization alternatives also differ on the ability of communities to obtain harvest quota share. Under the three-pie and IFQ alternatives, CDQ groups, or other community groups if a CDQ group is not present, in eligible communities (again, those with 3 percent or more of processing activity for covered species during the qualification period) would be able to purchase harvest quota share due to a waiver of sea time requirements that would otherwise prevent such purchases. By design, the ability to obtain harvest quota share could result in beneficial community and social impacts through communities becoming more directly engaged in the fishery. In the case of Adak, harvest quota shares, if purchased, would be obtained by the to-be-formed community group. If exercised, this ability could result in beneficial community and social impacts through the community becoming engaged in the fishery in a way that it is not under existing conditions.

Another potentially distinguishing feature of the rationalization alternatives from a community or social impact perspective is the ability of harvesters to form co-ops under the three-pie and cooperative alternatives (but not under the IFQ alternative). For Adak, this ability (or lack thereof) would not appear to result in significant beneficial or adverse impacts given its current nature of engagement with the fishery.

2.7 ST. PAUL

The community of St. Paul is located on a narrow peninsula on the southern tip of St. Paul Island, the largest of five islands in the Pribilofs. St. Paul Island lies 47 miles north of St. George Island, 240 miles north of the Aleutian Islands, 300 miles west of the Alaska mainland, and 750 air miles west of Anchorage. St. Paul, located in the Aleutians West Census Area, is not part of an organized borough. The City of St. Paul, incorporated in 1971, encompasses 40.3 square miles of land and 255.2 square miles of water.

The climate of St. Paul is arctic maritime. The Bering Sea location results in cool weather year-round and a narrow range of mean temperatures varying from 19 to 51°F. Average precipitation is 25 inches, with snowfall of 56 inches. Heavy fog is common during summer months.

The Pribilofs were encountered in 1786 by Russian fur traders who landed first on St. George and originally named the larger island to the north St. Peter and St. Paul Island.[31] Beginning in 1788, the Russian American Company relocated indentured or enslaved Aleuts from Siberia, Atka, and Unalaska to the Pribilofs to hunt fur seals, and the contemporary population of the two islands trace their ancestry to those original hunters. The island was administered by the Russian American Company until the sale and transfer of Alaska from Russia to the United States in 1867.

In 1870, the Alaska Commercial Company was awarded a 20-year sealing lease by the U.S. Government, and provided housing, food, and medical care to the Aleuts in exchange for seal harvesting. In 1890, a second 20-year lease was awarded to the North American Commercial Company. However, the fur seals had been over harvested and a period of severe local poverty ensued. The 1910 Fur Seal Act ended private leasing on the

[31] A relatively detailed history of the community of St. Paul and a description of previous engagement in the commercial fisheries of the area may be found in the community profiles developed for the NPFMC's Social Impact Assessment of the Inshore/Offshore-1 Amendment Proposal (IAI 1991), and will not be recapitulated here beyond a brief overview.

Islands and placed the community and fur seals under the U.S. Bureau of Fisheries. Food and clothing were scarce, social and racial segregation were practiced, and working conditions were poor.

During World War II, the Pribilof Aleuts were moved to Admiralty Island in Southeast Alaska as part of the evacuation of civilian residents from the Bering Sea. Unlike other Aleutian residents, they were confined in an abandoned cannery and mine camp at Funter Bay. In 1979, the Pribilof Islanders received $8.5 million in partial compensation for the unfair and unjust treatment they were subject to under federal administration between 1870 and 1946.

In 1983, Congress passed the Fur Seal Act Amendments, which ended government control of the commercial seal harvest and the effective federal domination of daily life on the island. Responsibility for providing community services and management of the fur seals was left to local entities. Funds totaling $20 million were provided to help develop and diversify the Pribilof economy - $12 million to St. Paul and $8 million to St. George. The amendment assumed that commercial harvests would continue and become a major source of local funding, but the U.S. Senate failed to ratify the Fur Seal Treaty in 1984, thus ending commercial seal harvesting on St. Paul (commercial sealing had ceased on St. George a decade earlier). (Ownership of fur seal pelts is now prohibited except for subsistence purposes, and a subsistence seal hunt occurs annually.) On St. Paul, most of the transition funds were used to upgrade inadequate community infrastructure, including major investments in the harbor. The federal government in 1983 also apparently assumed that the State of Alaska would provide substantial harbor improvement funding to supplement the federal transition funds, but the state was seemingly not in a position to do so. Thus, federal withdrawal took place without commercial sealing continuing, state assumption of the harbor development project, or substantial funding available for economic development and diversification, all key assumptions for the development of a self-sustaining local economy.

Incorporated as a Second Class City, today St. Paul is a port for the central Bering Sea fishing fleet, and port and harbor improvements have been the basis for recent economic development. The local commercial halibut fishery got its start in 1981, and a crab processing plant was built several years later. Local residents hold commercial fishing permits for halibut, a few own halibut IFQs, and local boats also fish for CDQ halibut. Trident and a local buyer (PASCO, owned jointly by the local Indian Reorganization Act (IRA) organization and the village ANCSA corporation) have been the local buyers for halibut. Cold storage construction was recently completed. In the recent past, UniSea and Icicle floating processors operated in the harbor, others operated nearby but outside the harbor itself, and up to nine offshore processors have been serviced out of St. Paul. More recently, UniSea has discontinued operations in the community.

Community Demographics

As briefly outlined above, St. Paul has yet an entirely different origin than the other communities profiled (other than nearby St. George). Today's community traces its roots directly to the forced migration and population of a commercial sealing outpost on previously uninhabited lands under Russian dominion. In this way it does not have the continuity to a prehistoric past like Unalaska, an original foundation in the commercial fishery like King Cove, or a grounding in military exigencies like Adak. St. Paul (along with neighboring St. George) has by far the largest proportion of Alaska Natives relative to total population of any of the communities profiled. As with these other communities, however, local residents perceive the fishing industry as the best economic opportunity for the community, especially given St. Paul's status as a CDQ community and the potential advantages for development this status entails.

Total Population

Information on the total population of St. Paul by decade for the past 120 years is presented in Table 2.7-1. As shown, the population declined between 1880 and 1910, but increased every decade between 1910 and 1990. Between 1990 and 2000, however, the population declined by approximately 30 percent. This can perhaps be at least partially accounted for by a reduction in the enumeration of fish processing employees (see discussion of ethnicity below). The long-term construction of the harbor began in 1984 and, while projects continue, it was officially opened August 3, 1990. Thus, the contracted labor force for this (and other) projects may have also peaked in 1990. Current adverse local (and regional) economic conditions may also be contributing to an overall population decline (see school and especially opilio crab stock decline discussions below).

Table 2.7-1 St. Paul Population by Decade, 1880-2000

Year	Population
1880	298
1890	244
1900	214
1910	201
1920	212
1930	247
1940	299
1950	359
1960	378
1970	450
1980	551
1990	763
2000	532

Source: Historic data from Alaska Department of Community and Economic Development, 2000 data from U.S. Bureau of the Census

Ethnicity

Table 2.7-2 presents information on ethnicity of the St. Paul population for 1990 and 2000. As shown, the 2000 population is considerably less diverse than the 1990 population. In 1990, Alaska Natives accounted for two-thirds of the total population, while in 1990 the population was 86 percent Alaska Native. African Americans and Hispanics, present in the 1990 census, were absent in 2000, while Asian/Pacific Islanders and "Other" individuals were present at less than 10 percent of their 1990 totals. These minority groups are characteristically significant components of the fish processing workforce in Western Alaska, and are typically absent in Western Alaska communities with no fish processing. Fish processors commonly live in group housing provided by their employer.

Table 2.7-2 Ethnic Composition of Population St. Paul 1990 and 2000

Race/Ethnicity	1990		2000	
	N	%	N	%
White	164	21.5%	69	13.0%
African American	12	1.6%	0	0.0%
Native American/ Alaskan	504	66.0%	457	85.9%
Aleut	485	63.6%	-	-
Eskimo	8	1.0%	-	-
American Indian	11	1.4%	-	-
Asian/Pacific Islands*	44	5.8%	3	0.6%
Other**	39	5.1%	3	0.6%
Total	763	100%	532	100%
Hispanic***	62	8.1%	0	0.0%

* In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 3) and Asian (pop 0)

** In the 2000 census, this category was Some Other Race (pop 0) and Two or more races (pop 3).

*** "Hispanic" is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).

Source: U.S. Bureau of Census

Group housing in St. Paul has historically been largely associated with federal employment, temporary construction projects, and seafood processing. Federal employment declined significantly prior to 1990, and so is probably not a major component of the population differences between 1990 and 2000. As shown in Table 2.7-3, 26 percent of the population lived in group housing in 1990, but only 4 percent did so in 2000. This sharp drop is attributable to a reduction in enumeration of fish processing employees (but whether this was due only to a decline in such activity, or at least partially to change in the timing of such activity, is not clear). It is also likely a function of a decline in "special projects" (with outside workers) as well. Table 2.7-4 provides 1990 census information on group housing and ethnicity for St. Paul (similar information for 2000 is not yet available). Also as shown, ethnicity varied strikingly between the group and non-group housing, with the non-group housing population being 88 percent Alaska Native and the group housing population being only 2 percent Alaska Native.

Table 2.7-3 Group Quarters Housing Information, St. Paul, 1990 and 2000

Year	Total Population	Group Quarters Population		Non-Group Quarters Population	
		Number	Percent of Total Population	Number	Percent of Total Population
1990	763	196	25.69%	567	74.31%
2000	532	22	4.13%	510	95.87%

Source: U.S. Bureau of the Census 1990 STF2, Census 2000 Summary File 1

Table 2.7-4 Ethnicity and Group Quarters Housing Information, St. Paul, 1990

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	164	21.5%	99	50.5%	65	11.5%
Black	12	1.6%	12	6.1%	0	0.0%
American Indian, Eskimo, Aleut	504	66.1%	4	2.0%	500	88.2%
Asian or Pacific Islander	44	5.8%	42	21.4%	2	0.4%
Other race	39	5.1%	39	19.9%	0	0.0%
Total Population	763	100.0%	196	100.0%	567	100.0%
Hispanic origin, any race	62	8.1%	59	30.1%	3	0.5%
Total Minority Population	605	79.3%	102	52.0%	503	88.7%
Total Non-Minority Population (White Non-Hispanic)	158	20.7%	94	48.0%	64	11.3%

Source: U.S. Bureau of the Census 1990 STF2

Age and Sex

Table 2.7-5 provides information on the age and the male/female ratio of St. Paul's population in 1990 and 2000. As shown, there was a larger male to female imbalance in 1990 than is seen in 2000. This, like the changes seen in overall population, ethnic composition of the population, and proportion of the population living in group quarters, can be attributed to the lack of a transitory or mobile labor force in 2000, which has resulted in the community having less of an "industrial" or "institutional" type of population and more of a "residential" type of community population.

Table 2.7-5 Population by Age and Sex, St. Paul: 1990 and 2000

Attribute	1990		2000	
	N	%	N	%
Male	478	62.6%	294	55.3%
Female	285	37.3%	238	44.7%
Total	763	100%	532	100%
Median Age	NA		31.9 years	

Source: U.S. Bureau of Census

The St. Paul school, a part of the Pribilof School District, provides kindergarten through twelfth grade classes. School enrollment figures for the 1993-2002 period are displayed in Table 2.7-6. As shown, student counts during this span peaked in 1995, and the current (2002) enrollment is about three-quarters of that seen in 1995. According to senior school staff, currently there are approximately 16 to 18 local residents attending high school "off-island," while approximately 24 attend the local high school. Until the early 1990s, the St. Paul school only provided education through the tenth grade, and all eleventh and twelfth grade students attended school off-island. Thus, while there is strong community support for the local school, there is also a strong local tradition of attending high school off-island (Carden, personal communication 2002).

Table 2.7-6 St. Paul School Enrollment, 1993-2002

Year	Student Count
1993	118
1994	127
1995	153
1996	141
1997	140
1998	127
1999	121
2000	114
2001	110
2002	116

Source: Data supplied by school district staff, October, 2002.

Local Economy and Links to the Crab Fishery

The federally controlled fur seal industry dominated the economy of St. Paul until the mid-1980s. The presence of large seal populations still contributes to the local economy, as the rookeries and more than 210 species of nesting sea birds attract almost 700 tourists annually, and the community is working to further develop eco-tourism.

There is also a reindeer herd on the island, a remnant from a previous commercial venture. Residents utilize halibut, fur seals (1,645 may be taken each year), reindeer, marine invertebrates, plants, and berries for subsistence. Locally obtained subsistence resources are shared and exchanged with relatives and friends living in other communities, sometimes in return for subsistence resources obtained elsewhere, such as salmon.

The overall importance of the commercial fishery to the community may be seen in the fact that the local raw fish tax is the largest single local source of funds for the City of St. Paul. In terms of the relative importance of crab, opilio is by far the most important commercial species, crab or non-crab, for St. Paul processors and thus for revenues for the City of St. Paul.

In recent years, economic activity associated with harbor development in the support of commercial fishing has been quite important, and especially so in conjunction with the local development of those fisheries. St. Paul, as a CDQ community, has a viable opportunity to partner with the fishing industry in these ventures. Summary information on local CDQ group-related employment is only available for 1994-1997 and ranged from 89 in 1994 to 15 in 1997, with average earnings ranging from $9,807 to $14,880 (CBSFA website 2001). Due to the recent drastic reduction in opilio crab stocks (and quotas), St. Paul has also recently shared

in the receipt of Opilio Crab Disaster Funds, as has the Aleut Community of St. Paul (the local IRA organization) and the Central Bering Sea Fisherman's Association (CBSFA).

Harvesting

The local fishing fleet focuses primarily on halibut in the local area (4C), although there is interest in expansion into other areas. As discussed in the Inshore/Offshore-1 community profiles (NPFMC 1991), Tanadgusix Corporation (typically referred to as "TDX"), the local ANCSA village corporation, fostered the growth of this fleet, beginning in 1981, by providing loans for boats and, in the early years, operating a facility to buy and process the halibut.

The CDQ program, which was implemented in 1992 as part of the groundfish management changes of Inshore/Offshore-1, allocated a percentage of the pollock quota to CDQ communities to aid in economic development through involvement in Bering Sea commercial fisheries. St. Paul is the only community that is the sole member of its own CDQ group (the CBSFA). The CDQ program expanded in 1998 to a number of other species, including crab, in addition to pollock. The CBSFA is currently (2002) allocated the following percentages of the overall CDQ allocations – pollock 5 percent, halibut (area 4C) 90 percent, sablefish (Bering Sea) 18 percent, turbot (Bering Sea) 14 percent, turbot (Aleutian Islands) 5 percent, Pribilof red and blue king crab 100 percent, opilio crab (Bering Sea) 19 percent, Bairdi tanner (Bering Sea) 19 percent, Pacific cod 20 percent, Atka mackerel 10 percent, yellowfin sole 8 percent, most flatfish species 10 percent, rockfish other than arrowtooth 8 percent, Arrowtooth rockfish 9 percent, most Pacific Ocean Perch species 10 percent, and various percentages of prohibited species CDQ caps.

About 31 community residents currently hold commercial fishing permits for halibut. Most local boats are in the 22- to 26-foot range, with 34 feet being considered "large" for a local boat. The fleet also includes quite small skiffs fished only in very good weather. In terms of gear differentiation by vessel size, a 34-foot boat can handle a self-baiting system for halibut fishing, while smaller boats cannot.

The summer halibut season is a central organizing activity for the entire community (P. Swetzof personal communication 2002), and CDQ halibut is especially important in this regard (Kudrin personal communication 2002). Fifty-eight people are on the list to receive mailings from the CBSFA, but only local residents are allowed to fish for CDQ halibut. The CBSFA sets the terms under which they fish. Most recently, fishermen were limited to landing 5,000 pounds a day and received payment from the processor minus an approximate 6 percent charge paid to the CBSFA to offset the costs of administering the program. The season usually starts June 15 and lasts until the processor leaves or shuts down the line, which occurred on September 15 in 2001. There were 49 actual fishing days for halibut in 2001 (with some limitation due to weather) and 99 percent of the CBSFA CDQ halibut quota of 913,500 pounds was harvested. In 2001, 24 boats were eligible to fish and 20 actually fished. The highest producers in the fleet harvested 70,000 to 110,000 pounds of CDQ halibut over the season, and the participants with lowest seasonal totals still all harvested well over 5,000 pounds each. A few fishermen also own IFQs (most through initial allocation, but at least one fishermen has purchased local halibut IFQs).

Local fishermen are also interested in developing a local cod fishery and have sold a limited amount of cod caught as by-catch in the halibut fishery to various processors. Cod is not yet a target fishery for the local fleet, although its development is one of the long-term goals stated in the CBSFA's quarterly CDQ reports to the State of Alaska. The Trident plant in St. Paul has processed cod, although this cod was purchased primarily (or totally) from non-local boats. There are other fisheries of interest to the local fleet, such as the hair crab fishery.

According to ownership data supplied by NPFMC, all crab deliveries to processors in the Pribilofs are made by non-local boats from other Alaskan communities and the Pacific Northwest. While these data indicate there is little or no local crab fleet in St. Paul, there has, however, been recent local investment in crab harvesters through the local CDQ group. While not showing up as majority ownership, these investments still mean there is a local stake in harvest issues. Furthermore, it is not uncommon for at least a few local residents to serve as crew members on vessels in which the CBSFA has an ownership stake, so that in most years one or two St. Paul residents earn crew shares in Bering Sea crab fisheries.

The level of harvesting, and processing, of crab in the Pribilofs and more specifically around St. Paul has depended on resource population levels and quotas that have fluctuated substantially in recent years. Floating processors and catcher processors processed most of this crab though the 1980s and continue to process much of it. Since 1992, however, shoreplant operations on St. Paul have grown in local importance. The relative production of shoreplant and floating processors in and near St. Paul in recent years cannot be discussed quantitatively because of data confidentiality restrictions. Information for the area designated as the "north region" for the purposes of crab rationalization alternatives and options analysis involving a regionalization component (i.e., all areas on the Bering Sea north of 56° 20' north latitude, see Figure 2.7-1 “North and South Regionalization Landing/Processing Areas”) is discussed in the following section. Although community-specific data cannot be parsed out for this region, it is clearly understood through common knowledge that most of the processing within the north region takes place in St. Paul.

Processing

In terms of the history of local processing efforts, contemporary local shore processing can trace a continuity to a TDX pilot project to harvest and process local halibut that began in 1981. One source suggested that they were using the "Anderson plant," which had been built in the 1970s (Joe Plesha, personal communication, January 2002). Small volumes of halibut were processed in 1981-1983 and increased significantly in 1984. TDX sold the operation to the local IRA Council in 1984, which operated it until 1988. After 1988, the facilities were upgraded and leased to an outside operator, Pribilof Island Processors (PIP), which reportedly processed halibut, cod, and crab – although total amounts may have been relatively small. PIP went out of business in 1991 and its assets, including the St. Paul operations, were acquired by Unipac. Unipac continued to operate the existing facilities but also built a large crab plant. Unipac processed a significant amount of crab in 1992-1994. In 1994, Trident Seafoods purchased the Unipac assets and has operated the crab plant since then. More recently, TDX and the Aleut Community of St. Paul have jointly operated as another local buyer for halibut, doing business as PASCO, and attribute the increased local price for halibut to this increased competition. The first year they processed the halibut with their own crew, using facilities leased from Trident. In 2001, according to local sources, a different custom processing arrangement instituted by Trident had the effect of resulting in less profit for PASCO. As a result, PASCO is seeking to start a small independent processing facility to gain control over a larger portion of their total operation.

The Trident plant, in terms of value and probably total pounds, has relied primarily on crab. Trident reports that immediately after crab they process cod, but the amount varies from one year to another. Recently Trident has explored the salt cod market. In a "normal recent" year the yearly cycle is expected to be crab opening about January 15 with about 150 processors (nearly all non-local) on hand. All boats delivering crab are non-local. The crab quota would be expected to last until February 5, when two-thirds of the processors would be "sent home" (laid off) and about 50 retained for cod and CDQ crab (if any) until March 15 or so. The targeted cod fishery is also fished by non-local boats, although some by-catch cod may be delivered by local boats during the halibut fishery. Halibut processing takes place from mid-June through September and employs a processing crew of about nine, of whom two or three are typically local. CDQ halibut is very important during this period and is fished exclusively by local boats. Local boat-owners also own some


North Pacific Crab EIS
GIS2002\2K101\GIS\mxd\map1.mxd Albers Conical Equal Area NAD27m (E.Coughlin) 4/23/03
ALASKA
Saint Matthew I.
Bethel
Anchorage
Seward
Homer
Dillingham
Kodiak
NORTH REGION
56°20' N
Saint Paul
Saint George
BERING SEA
SOUTH REGION
Port Heiden
Port Moller
Chignik
Sand Point
King Cove
Unalaska/ Dutch Harbor
Akutan
Adak
Atka
SOUTH REGION
GULF OF ALASKA
NORTH PACIFIC OCEAN
Source: Alaska Dept. of Natural Resources
150 75 0 150 Miles
NORTH
Scale: 1:9,504,000; 1 inch = 150 miles
North and South Regionalization
Landing/Processing Areas

regular halibut IFQs, which are delivered into St. Paul, and a few non-local fishermen have delivered regular IFQ halibut to St. Paul in the recent past. Processing employees have had minimal interaction with full-time St. Paul residents.

A number of floating processors have also operated in the area and have established consistent relationships with various regional communities. Icicle and Norquest are the two major floaters who are currently processing crab in the Pribilofs. Another operator, UniSea, processed crab in the Pribilofs during the mid- and late-1990s, but has sold their platform (the UniSea[32]) and did not process crab in the Pribilofs in 2000 or 2001. Icicle processes inside the St. Paul harbor, while Norquest processes outside of the harbor itself, as well as in other in other locations in the Pribilofs. Other enterprises may also have used floaters to process crab in and around St. Paul and St. George as well.

As a general rule, quantitative data regarding the processing of most commercial fisheries species in St. Paul, or even for the north region as a whole, cannot be given because of confidentiality restrictions. Further, because of confidentiality considerations, for those few instances where data can be discussed, only quantitative information for St. Paul itself or the for the north region as a whole, but not both, may be revealed. For crab, those few cases include (1) opilio crab and (2) all nine relevant BSAI crab species combined. These two instances provide the only combinations of data where the number of processor entities (four or more) allow for data disclosure. Further, the information available does not allow a quantitative discussion of processor dependency on crab in terms of diversity of all species processed in the region. As developed below, however, qualitative information suggests that the mix of species processed within the north region is less diverse than generally seen in other communities.

Given the limited options available and with the knowledge that St. Paul processing has historically comprised most of the processing activity in the north region, non-confidential quantitative information for the north region as a whole will be provided in this community discussion rather than numbers that pertain only to St. Paul specifically. This decision was made due to a judgement that this approach is of greater overall utility for the analysis of the impacts of the regionalization aspects of the rationalization alternatives (although it results in some loss in the ability to discuss impacts specific to St. Paul with precision). While these data appear in the St. Paul profile, it is also important to note that using the regionally aggregated data allows the discussion to be inclusive of St. George as well (and the profile of that community follows this one).

Table 2.7-7 displays the processing history for opilio crab for both the north region and in all regions combined in terms of value for 1991-2000. Comparative information for all nine relevant BSAI crab fisheries combined is also presented in the table. As shown, opilio crab is by far the most important of these species for the north region, accounting for 74 to 100 percent of the relevant BSAI crab processed in that region annually in the period 1991-2000. In terms of the opilio fishery as a whole, processing in the north region was most significant since 1993, and especially since 1994. For the period 1991-2000, north region processing accounted for about 31 percent of the total processing value of the fishery. For the period 1995-1999, the comparative percentage is about 43 percent. The sharp decline in the GHL from 1999 to 2000 was disproportionately felt in the north region, as it resulted not only in absolute decline in local harvesting and processing, but also in a sharp decline relative amount of total opilio processing in the north region as a whole. The percentage of the total opilio crab fishery processed in the north region declined from 49 percent in 1999 to just 18 percent in 2000. That is, the reduced stock size resulted in a different distribution of where crab was processed, not a proportional decline in all areas, with the south region (plus unassigned processing) increasing from around one-half to four-fifths share of opilio processing.

[32] The UniSea barge, long a fixture in Dutch Harbor and later St. Paul, was sold for scrap in the Far East, leaving the fishery entirely.

Table 2.7-7 Value of Opilio and Other Relevant BSAI Crab Species Processing for the North Region and the Total of All Regions, 1991-2000

Year	North Region (Only)			All Regions (North and South Regions Combined)			North Region as a Percentage of All Regions	
	Opilio	All 9 PMA	Opilio as % of All PMA	Opilio	All 9 PMA	Opilio as % of All PMA	Opilio	All 9 PMA
1991	$15,609,665	$18,743,343	83.3%	$164,468,126	$305,695,929	53.8%	9.5%	6.1%
1992	*	$20,352,531	*	$160,094,620	$289,853,730	55.2%	*	7.0%
1993	$33,704,633	$44,026,160	76.6%	$173,026,231	$304,538,220	56.8%	19.5%	14.5%
1994	$87,386,307	$103,447,046	84.5%	$195,666,718	$283,488,574	69.0%	44.7%	36.5%
1995	$68,943,547	$76,978,258	89.6%	$172,167,486	$221,109,681	77.9%	40.0%	34.8%
1996	$39,783,850	$47,132,139	84.4%	$88,140,168	$154,074,142	57.2%	45.1%	30.6%
1997	$30,663,070	$41,570,835	73.8%	$92,337,590	$147,820,510	62.5%	33.2%	28.1%
1998	$57,357,499	$63,680,397	90.1%	$135,847,412	$191,024,760	71.1%	42.2%	33.3%
1999	$88,524,132	$89,771,698	98.6%	$179,572,974	$264,003,323	68.0%	49.3%	34.0%
2000	$10,125,943	$10,125,943	100.0%	$55,826,325	$111,690,223	50.0%	18.1%	9.1%
1991-2000	*	$515,828,351	*	$1,417,147,650	$2,273,299,091	62.3%	*	22.7%
1995-1999	$285,272,097	$319,133,327	89.4%	$668,065,630	$978,032,416	68.3%	42.7%	32.6%

Notes: Cells marked by "*" are confidential.
Numbers for individual relevant BSAI crab species other than opilio and groupings other "all 9 combined" are confidential.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Qualitative interview information suggests that the shift of processing away from St. Paul during dropping stock conditions in 1999-2000 may be related to the "slow" nature of the fishing, and a crab fishery that was less of a race for crab than in the past. Data from interviews with harvesters would suggest that shorter seasons (and/or lower harvest levels), among other factors, result in a higher proportion of crab being taken further from the grounds (away from St. Paul) for processing because "last loads" that often go elsewhere account for a higher proportion of the total harvest than would otherwise be the case. The distribution of marketable crab also seems to have affected delivery patterns. Finally, most (if not all) CDQ crab is processed in the north region, and this would appear to function as a foundation or "critical mass" to attract other (non-CDQ) crab landings to north region processors, which can counter some of the incentives for crab processing to occur elsewhere. With a lower "critical mass," this pull for other processing activity may not have been as strong as otherwise would have been the case.

The decline in opilio crab GHL and harvest in 2000 may be useful in anticipating some of the likely effects of a rationalized crab fishery without regionalization, in terms of a possible shift of processing out of the north region. The value of opilio crab processed in the north region declined by about 89 percent between 1999 and 2000, and most of this was due to the greatly reduced harvest. Still, if the same proportion of the total opilio fishery had been processed in the north region in 2000 as in 1999, the value of that processing would have been $27,520,717 rather than the actual value of $10,125,943 – a difference or inter-regional "shift" of about 63 percent of the "expected" value even under drastically reduced conditions. The actual regional shift of processing for opilio crab under a rationalized crab fishery would, of course, depend on a number of business decisions made by individual entities that cannot be fully anticipated, but the overall regional/community effects could be comparable to those experienced by St. Paul (and the other communities in the region) of the combined harvest reduction and processing shift for opilio crab from 1999 to 2000.

Most processors that operate in the Pribilofs also process crab in other locations (with shoreplants and/or floating facilities). Those processors that operate only floaters in the Pribilofs could operate those same

facilities anywhere that logic and economic incentives dictate, while the single north region shoreplant (in St. Paul) is fixed in location. Processors indicate that under the current open-access management system, with a race for crab, operating in the Pribilofs makes economic sense. Although the costs of operation in the Pribilofs are stated to be higher, and the logistics involved more complicated, than for Unalaska/Dutch Harbor, Kodiak, or a number of other ports, these factors are offset by proximity to the resource under race-for-fish. This proximity enables harvesters to catch more crab within a shorter period of time. If such time constraints are relaxed, the desirability of operating in the Pribilofs would be reevaluated. In other words, the current inefficiency or overcapitalization in the crab fishery makes the relatively expensive operations in St. Paul worthwhile. If the fishery were to become more efficient through some type of rationalization program, it could be anticipated that at least some processing operations would be consolidated, with a likely result, if operating costs in the Pribilofs are/remain higher than in other locations, of moving processing partially or entirely away from St. Paul. It should be noted that this result can be anticipated even if operating costs in St. Paul are not significantly higher than in other locations or could be reduced by local changes. As stated above, all current St. Paul crab processors also operate facilities in other locations and under a rationalized fishery would have excess processing capacity elsewhere with which St. Paul operations could be consolidated.

In addition, most floating processors are dependent upon being able to participate in a number of different fisheries – most commonly crab, salmon, and herring roe. In the past, halibut and sablefish have been important fisheries for such operations, but the IFQ system has reportedly redirected halibut and sablefish to other markets through other processors. A minimum constellation of fisheries is required for floating processors to operate, and several processor representatives noted that a number of floaters had been tied up rather than working in recent years. Once operating days and fishery profitability fall below a certain threshold, the total operation must shut down. Several operators noted that salmon and herring markets were quite depressed, and that crab is in danger due to low stocks and quotas. They expressed concerns that if crab operations are no longer profitable that they will need to retire floating processing capacity, at least temporarily, which would also affect the salmon and herring fisheries that these floaters service. This is also a potential concern for the consolidation of crab processing capacity in general – that other high volume/low profit fisheries that may depend on the non-crab season this "excess" crab processing capacity may be adversely affected by the expected contraction of processing capacity in a rationalized crab fishery.

One major concern of St. Paul entities is that if changes in the crab fishery through rationalization were to result in processing moving away from St. Paul, the underpinning of processing for the local halibut fishery would also be removed. In the current environment, the entities that process crab also process locally caught halibut, and the concern is that absent the crab fishery, the local halibut fishery is not large enough to support local processing activity. Thus potential economic effects are not confined to the loss of revenues derived from the opilio crab fishery, but also from the halibut fishery. Beyond its economic importance as one of the relatively few local opportunities to earn a cash income, the halibut fishery has also become an important component of local social organization and social relationships. The CBSFA continues to work towards the establishment of a multi-species processing facility in St. Paul (in addition to the existing Trident plant) through discussion with American Seafoods (a major CDQ partner for CBSFA) as well as other processing entities. Such a multi-species plant is a major goal of the CBSFA and has been included in their quarterly CDQ reports to the State of Alaska since at least the first quarter of 2001.

Support Services

Support services in St. Paul are in a state of continuing development. St. Paul harbor was officially opened August 3, 1990 (although it was used before the official opening). There is a breakwater, 700 feet of dock space, and a barge offloading area. The harbor provides facilities to offload and temporary moorage, but long-term moorage is lacking, although basic electricity, water, and fuel services are available.

Despite continuing harbor improvements, St. Paul is able to provide little in the way of direct support services, although up to nine offshore processors are serviced out of St. Paul. Services to work on larger vessels are not available (except those that may possibly be obtained at the Trident plant or a floating processor), and the CBSFA has had to bring in non-local specialists (engine repair, aluminum welding) even for work on the small local boat fleet when there was sufficient demand for such service (although part of the Community Development Plan is to provide local facilities for such work locally). Increased cold storage was recently completed, and recent Opilio Disaster Funds have been expended on a number of components of the St. Paul Small Harbor Plan while the small boat harbor itself is under development.

There is an Alaska Commercial store in St. Paul that does make significant sales to fishermen and processors, and the only liquor store and the only bar in town are tribally operated and also report a high volume of sales to fishermen. There is no hotel in St. Paul, although one or two are in development (and one operated in the recent past). The city operates a limited number of rental units that are made available to non-local visitors on an "as-available" basis. For the most part, Trident and whatever floaters are operating in the area are more rather than less self-sufficient, due primarily to the relative lack of local support services.

Regularly scheduled flights are provided to the community but are restricted to Visual Flight Rule conditions and have decreased drastically in frequency. Weather conditions often prevent the scheduled flights. Furthermore, the carrier servicing St. Paul has changed so that the planes are smaller in size than in the past. Most supplies and freight arrive by ship.

The Municipality and Revenues

Table 2.7-8 provides information on municipal revenues for St. Paul for 1999 and 2000 as posted on the DCED website. More detailed information on fish taxes on St. Paul is not presented due to confidentiality considerations triggered by the low number of processors in the community. St. Paul has a local 3 percent sales tax, but no property or special taxes (such as a raw fish tax).

Budget information has also been obtained for these years directly from the City of St. Paul, and selected information has been abstracted for this section. More specific information on fish tax revenues *per se* cannot be discussed due to confidentiality restrictions on the data. The years 1999-2000 are significant since 1999 was the last year for a large opilio crab quota, so that the change from 1999 to 2000 is a reasonable proxy, at least in part, for the economic effects of moving crab processing operations away from St. Paul. It should be noted, however, that 1999 was a peak year compared to preceding years. For example, local fish taxes in 1999 were about double what they were in 1998 and about triple what they were in 1997. Examination of a greater span of years show that there has been considerable variation up and down over the years, but just as 1999 was a peak, local fish tax revenues in 2000 were less than half of what they were in any of the preceding 5 years.

The most salient differences between 1999 and 2000 St. Paul revenues are:

- 14 percent decline in overall total revenues
- 29 percent decline in total operating revenues
- 116 percent increase in total outside revenues (that incorporates an 87 percent decrease in state fish tax sharing)
- 48 percent decline in total local operating revenues
- 75 percent decline in local tax revenues (predominately fish tax based on crab, but also a significant amount from sales tax)

Table 2.7-8 St. Paul Municipal Revenues, 1999 and 2000

	1999	2000
Local Operating Revenues		
Taxes	$3,202,626	$776,776
License/Permits	$0	$0
Service Charges	$236,278	$296,191
Enterprise	$3,157,798	$2,270,137
Other Local Revenue	$411,091	$299,824
Total Local Operating Revenues	$7,007,793	$3,642,928
Outside Operating Revenues		
Federal Operating	$0	$0
State Revenue Sharing	$95,090	$42,789
State Safe Communities	$0	$14,303
State Fish Tax Sharing	$752,836	$98,195
Other State Revenue	$59,727	$1,810,397
State/Federal Education Funds	$0	$0
Total Outside Revenues	$907,653	$1,964,684
Total Operating Revenues	**$7,915,446**	**$5,607,612**
Operating Revenue Per Capita	$11,761	$9,586
State/Federal Capital Project Revenues	$165,470	$1,338,810
TOTAL ALL REVENUES	**$8,080,916**	**$6,946,422**

Source: DCED Website, 2001, 2002

These differences all result from the loss of more locally derived revenues and their far less than full replacement with those from state or federal sources. Much of the decline in locally derived revenue sources can be traced to much lower crab landings in St. Paul in 2000 than in 1999.

Based on more specific budget information obtained from the City of St. Paul, the actual decline in local fish taxes from 1999 to 2000 was 84 percent. The City calculated that its sales tax receipts from five of the most significant local business sectors (shoreside processors, mobile processors, fuel distributors, harbor services, and the municipality) decreased in a range of 62 to 85 percent (Lestenkof, personal communication, 2002). Given this state of revenue decline, the City of St. Paul reduced its workforce by about half, from 80+ employees to 42 or so, and for the remaining workers instituted a reduced work week of 36 hours instead of 40 (P. Swetzof, personal communication, 2002). Similarly, for TDX the decline in revenue flow from 1999 to 2000 was approximately 59 percent, the workforce was reduced from about 34 to 9 full-time equivalents, with remaining employees receiving a 10 percent pay reduction. A good deal of this was directly attributed to the decrease in crab landings in St. Paul (Bourdukofsky and Philemonoff, personal communication, 2002). To the extent that any proposed fishery management alternative provides incentives to shift processing of opilio crab from the north region to other regions (or, alternatively, remove incentives that have resulted in local processing) these effects will continue, even after opilio stocks recover.

Summary of Recent Community Fishery IFQ/Co-op Rationalization Experience and Implications for Likely Crab Rationalization Impacts

Some St. Paul residents received halibut IFQs in the initial allocation process, but not a large number or a large amount of quota. Subsequently, targeted loan programs have enabled local residents to acquire more

IFQs and boats suitable to harvest them, so that local participation in this fishery has increased through time. This is probably not a good model, however, for local crab fisheries and what might reasonably be expected to happen under the rationalization alternatives. Local fishermen have only limited experience in these crab fisheries (as crew members), which require vessels larger than local fishermen use for halibut and potentially some other fisheries. The present harbor cannot accommodate this size vessel as part of the resident fleet, although St. Paul can adequately service and supply these vessels during the fishing season. There are plans for a small boat harbor that could support a local fleet with vessels up to 60 feet, but that is in the future (Mandregan, personal communication, 2002). The capital investment to enter crab fisheries would be much greater than for halibut. CBSFA has been allocated 90 percent of the local (area 4C) CDQ halibut, 100 percent of CDQ Pribilof red and blue king crab, and 19 percent of CDQ Bering Sea opilio and bairdi crab. These allocations (for those species with open fisheries) could be used as the basis for local entry into these fisheries (or continuing development, especially for halibut) but are perhaps more likely to be used as inducements to attract processors willing to process a wide range of other locally available species. The species that local fishermen believe is the most likely candidate for local entry is Pacific cod, as the CBSFA receives a Pacific cod CDQ allocation that could be fished in a manner similar to its halibut CDQ allocation.

In terms of the AFA-related pollock co-ops, St. Paul was not a direct participant in the co-op structure due to the lack of local pollock processing, nor is it home port to pollock catcher vessels. Unlike some of the other profiled communities, however, St. Paul has benefitted from investments in the fishing industry enabled through the CDQ program. Expansion of the CDQ concept into a multispecies program has increased these sorts of opportunities.

Given the truism that any sort of a crab rationalization program potentially makes the Pribilofs a less competitive location to process crab, rationalization is likely to negatively affect St. Paul, unless regionalization provisions are adequately designed to effectively lock in some level of processing in the community. Since there is no local crab fleet, the local impact of the various alternatives focus nearly exclusively on the potential for changing the processing context.

The regionalization provision was incorporated into what eventually became the three-pie alternative during the NPFMC preferred alternative formulation process due to the assumption that with no restrictions on the port of delivery and processing of crab, pure economic incentives may shift most if not all crab production away from St. Paul (and the Pribilofs in general). Under rationalization seasons would become longer. The race for crab in its present form would no longer exist, and much of the locational advantage of the Pribilof Islands for crab processing would vanish. Even if operating costs could be reduced to a competitive level, processing capacity consolidation (whether within companies or because of a reduction in the number of processing companies) may result in fewer or no crab processors in the Pribilofs. Floaters can move to operate in any location, and shore plants can be idled, if there is excess capacity in other facilities. In the absence of a requirement for the regionalization of deliveries and processing, it is thus probable that less than the historical average of crab would be processed in the Pribilofs. The degree and amount of this shift would depend upon the economic decisions of the processing entities involved, and the economic benefits to be derived from such shifts could only be evaluated through a detailed knowledge of their operating costs. The social costs of such shifts in St. Paul would be great and may make all past investment in the St. Paul harbor less relevant. Harvesting vessels would continue to use only limited services, and local fishermen would probably not have a stable local processor to buy their harvest. Fish tax revenues would decrease dramatically, with effects as great or greater than those evident in the decline from 1999 to 2000. St. Paul would essentially be in the same situation it faced from the early 1980s (when a primary component of the local economy, the commercial fur seal harvest, was discontinued) to the early 1990s (when local commercial fisheries/processing activity became a critical part of the local economic base). A difference in that era and a future loss of commercial fishing-related revenues, however, is that with the discontinuation of the seal harvest transition funds were made available to the community, and no such source of funding is apparent

were local commercial fisheries activities to essentially discontinue. St. Paul is among the communities most vulnerable to losing crab-related revenues under rationalization and it is also among the communities most dependent on BSAI crab in terms of both the relative importance of crab to other fisheries activities and the relative importance of crab to overall community revenues.

The regionalization feature of the "three-pie" and IFQ alternatives would, by design, ensure that a portion of the total fishery harvest would be delivered to "north region" ports. The Pribilofs are essentially the only viable ports in the north region, as evidenced by historical trends, and St. Paul has certain economic advantages over St. George. The costs that a regionalization provision would impose (on the processors, consumers, and the nation as a whole) could only be quantified if, as noted above, the detailed operating costs of the processors were known. The social and economic benefits to St. Paul, the state of Alaska, and ultimately the nation, could only be quantified if much more were known about the interactions of the CDQ program fisheries, the crab fisheries, and local fisheries for establishing the basis for viable and competitive processing operations in the Pribilofs. In the final analysis, however, both the economic costs imposed (at least in the short term) of any regionalization program, as well as the long-term social and economic benefits of any regionalization program, are not quantifiable with existing data. That is not to say that they will not occur. Regionalization will impose economic costs on processors, which will be passed on to consumers and the nation as a whole. In a sense, regionalization imposes, by design, the costs of a certain type of inefficiency on the fishery. St. Paul may not make economic sense as a crab processing location under an otherwise rationalized fishery, but the trade-off is ensuring economic continuity in the community or engagement in the fishery in ways that are both similar to and different from the aims and functioning of the CDQ program. Clearly there would also be economic and social costs not just to St. Paul, but to the state of Alaska and the nation as a whole if the crab fishery management approach were changed in such a way as to remove the underpinning of the St. Paul local economy.

Differential Impacts of the Three Rationalization Alternatives at the Community Level

As summarized above, for St. Paul the engagement in, and dependency on, the BSAI crab fishery is based primarily upon ties to local processing activity and secondarily on participation in the CDQ program. Beneficial or adverse impacts to the community of St. Paul deriving from the different rationalization alternatives result from the differential outcomes for these activities.

Each of the rationalization alternatives have identical provisions regarding increased allocations to the CDQ program (inclusion of additional species and an increase in the included species set-aside from 7.5 to 10 percent of the total allocation), creation of captain's harvest quota shares (3 percent of the TAC), and a community development allocation to Adak (10 percent of the WAI golden king crab allocation). Each of these provisions are directed toward fostering beneficial community or social impacts for at least some groups or areas. St. Paul, as the sole member of the CBSFA, would directly benefit from the CDQ program increases. Impacts of the creation of captains shares and the Adak community allocation would not be significant for the community of St. Paul.

Regionalization is a feature of the three-pie alternative and the IFQ alternative, but is not a part of the cooperative alternative. Regionalization is explicitly designed to create beneficial community or social impacts for at least some groups or areas. The north/south region designation was designed primarily to benefit St. Paul (and the Pribilofs in general), while the west region designation in the WAI golden king crab fishery was designed primarily to benefit Adak.

Impacts of the west region creation would be insignificant for St. Paul. Impacts of the creation of the north region under the three-pie and IFQ alternatives would be significant and beneficial for St. Paul. Under these alternatives St. Paul would either retain levels of processing activity seen during the qualifying period or, in

the case of the IFQ alternative, it might see an increase in levels of processing activity compared to qualifying period conditions if processing consolidated in St. Paul from elsewhere in the north region (i.e., by moving from St. George). The cooperative alternative would have significant adverse impacts for the community of St. Paul due to lack of a regionalization feature. Under this form of rationalization, processing activity in St. Paul would be expected to decline substantially from qualifying period conditions, if not vanish entirely. As detailed above, the negative impacts of this change would be profound for St. Paul.

Additional community protection features of a "cooling off" period and a right of first refusal on transfer of processing quota shares are a part of the three-pie alternative (and are not a part of any other alternative). Eligible communities (those that had 3 percent of processing activity for covered species) would be assured that during the 2-year "cooling off" period processing quota would not be moved out of the community. Subsequent transfers would be subject to a right of first refusal that would allow an eligible community (through its CDQ group or another community group, if a CDQ group were not present) to obtain ownership and control over processing quota to retain local processing activity. Based on qualifying period activity, St. Paul is deemed eligible for community protection provisions, and is one of only 2 of the total of 8 qualifying communities whose status can be disclosed, due to its having a sufficient number of processors present to allow data to be made known.

For St. Paul, both of these features would confer significant beneficial community and social impacts. The "cooling off" period would ensure that processing activity levels seen in the qualifying period would return to the community, and the right of first refusal would ensure that the local CDQ group, the CBSFA, would be able to obtain processing quota rather than have it leave the community in the future. Exercising the right of first refusal would result in a significant positive benefit to the CDQ group as well as the community as a whole (and St. Paul is in the unique position of having identical community and CDQ group boundaries -- in other communities, benefits to the CDQ group do not have a one-to-one relationship with benefits to a particular community). In practical terms, within the north region, the "cooling off" period and right-of-first refusal community protection provisions are likely to be less fundamentally important to St. Paul than to St. George. St. Paul has some inherent advantages over St. George in attracting processing activity, and if movement of processing activity within the north region is not impeded by specific community protection features, a consolidation of all north region processing into St. Paul may be predicted. Consolidation within the north region away from St. Paul is possible, but is not considered likely. As a result of these considerations (given that it still retains the regionalization feature) a lack of specific community protection provisions in the IFQ alternative may not result in significant adverse impacts for St. Paul. If the right of first refusal is triggered, however, clearly the ability to obtain local ownership processor quota share is a benefit over and above having local processing activity controlled by others, notwithstanding how important that activity is to the community in and of itself.

The rationalization alternatives also differ on the ability of communities to obtain harvest quota share. Under the three-pie and IFQ alternatives, CDQ groups, or other community groups if a CDQ group is not present, in eligible communities (again, those with 3 percent or more of processing activity for covered species during the qualification period) would be able to purchase harvest quota share due to a waiver of sea time requirements that would otherwise prevent such purchases. By design, the ability to obtain harvest quota share could result in beneficial community and social impacts through communities becoming more directly engaged in the fishery.

In the case of St. Paul, harvest quota shares, if purchased, would be obtained by the CBSFA. Given that St. Paul is the only CBSFA member, the benefits would accrue entirely to the community (and not be spread out among a number of communities across a wider region as would be the case for all other CDQ groups). If exercised, this ability could result in beneficial community and social impacts through the community becoming engaged in the fishery in a way that it is not under existing conditions.

Another potentially distinguishing feature of the rationalization alternatives from a community or social impact perspective is the ability of harvesters to form co-ops under the three-pie and cooperative alternatives (but not under the IFQ alternative). For St. Paul, this ability (or lack thereof) would not appear to result in significant beneficial or adverse impacts given its current nature of engagement with the fishery.

2.8 ST. GEORGE

St. George is located on the northeast shore of St. George Island, the southern most of five islands in the Pribilofs. It lies 47 miles south of St. Paul Island, 750 air miles west of Anchorage and 250 miles northwest of Unalaska. St. George, located in the Aleutians West Census Area, is not part of an organized borough. The city of St. George, incorporated as a Second Class City in 1983, encompasses 34.8 square miles of land and 147.6 square miles of water.

The climate of St. George is arctic maritime and results in cool weather year-round with a narrow range of mean temperatures varying from 24 to 52 °F. Average precipitation is 23 inches, with 57 inches of snowfall. Cloudy, foggy weather is common during summer months.

St. George was discovered in 1786 by Gavrill Pribilof of the Russian Lebedov Lastochkin Company while looking for the famed northern fur seal breeding grounds. St. George, like St. Paul, was populated by indentured or enslaved Aleut hunters from Siberia, Unalaska, and Atka and relocated by the Russians to harvest fur seas. St. George's historical experiences with the U.S. federal government between 1870 through 1983 (the end of effective federal control over daily life) closely parallels the experiences described in the St. Paul community profile. In 1983-1984, the U.S. government withdrew from the Pribilofs following the cessation of federal involvement in commercial sealing, providing $20 million to help develop and diversify the local economy, $8 million of which went to St. George. (Actual commercial seal harvesting stopped on St. George in 1973, a decade earlier than on St. Paul, but significant federal employment opportunities continued on St. George in the period between the ending of the harvest until the effective agency withdrawal from the community.) Much of St. George's $8 million was reportedly needed to bring former federal facilities up to state code requirements before use by the city, the Traditional Council, or the Tanaq Corporation, so the effect of the funding in starting a non-seal-reliant economy was considerably less than might otherwise have been the case, particularly in conjunction with the unrealized assumptions that accompanied the Fur Seal Act Amendment of 1983, as described in the St. Paul profile (e.g., the Senate failure to ratify the Fur Seal Treaty, foreclosing the potential local commercial benefits from sealing, and the lack of substantial state infrastructure development transition funds). Since the 1980s, the community has sought to develop commercial fisheries and tourism. Unlike neighboring St. Paul, there is no contemporary onshore processing activity, but the community has benefitted substantially in the recent past from local processing by mobile processors.

Community Demographics

As briefly outlined above, St. George shares with St. Paul an entirely different origin than the other communities profiled, as the contemporary Pribilof communities trace their roots directly to the forced migration and population of a commercial sealing outpost on previously uninhabited lands under Russian dominion. St. George has the largest proportion of Alaska Natives relative to total population of any of the communities profiled. As with these other communities, however, local residents perceive the fishing industry as the best private sector economic opportunity available to the community, especially given St. George's status as a CDQ community and the potential advantages for development that this status entails.

Total Population

Table 2.8-1 provides figures for St. George's total population by decade from 1880 through 2000. As shown, after a 30-year period from 1880 through 1910 of the decennial population counts varying between 90 and 93 persons, the population counts in the subsequent 90 years have varied by no more than 45 persons, between 138 (in 1920 and again 70 years later in 1990) and 183 (seen in 1940), with one exception, the 264 persons enumerated in 1960. The extended evacuation of civilian residents and effective depopulation of the village during World War II is not captured in these time series data. St. George has also had other experiences not shared by most other Alaska communities due to federal control over everyday life on the island for most of the last century. For example, in 1959 the Bureau of Commercial Fisheries (a forerunner of NMFS) announced that sealing would become a seasonal activity and recommended that the Pribilovians be relocated and given job training. While local opposition thwarted this initiative, the USDOI encouraged a voluntary relocation of St. George residents to St. Paul and, with the government control of housing, no new homes were built on St. George and vacant homes were destroyed.

Table 2.8-1 St. George Population by Decade, 1880-2000

Year	Population
1880	92
1890	93
1900	92
1910	90
1920	138
1930	153
1940	183
1950	na*
1960	264
1970	163
1980	158
1990	138
2000	152

* DCED data show a zero count in 1950, but this is known to be incorrect. With the exception of the evacuations during World War II, there has always been a civilian population present in the community over the time span shown in the table.
Source: Historic data from Alaska Department of Community and Economic Development, 2000 data from U.S. Bureau of the Census

Ethnicity

Table 2.8-2 presents information on ethnicity of the St. George population for 1990 and 2000. As shown, the community is much less ethnically diverse than the other communities profiled, consisting of only Alaska Natives and Whites in both 1990 and 2000. In both 1990 and 2000, Alaska Natives accounted for well over 90 percent of the total population. The diverse non-Alaska Native minority groups characteristically associated with the fish processing workforce in Western Alaska are absent in St. George.

Table 2.8-2 Ethnic Composition of Population St. George: 1990 and 2000

Race/Ethnicity	1990		2000	
	N	%	N	%
White	7	5.1%	12	7.9%
African American	0	0.0%	0	0.0%
Native American/Alaskan	131	94.9%	140	92.1%
Asian/Pacific Islands*	0	0.0%	0	0.0%
Other**	0	0.0%	0	0.0%
Total	138	100.0%	152	100.0%
Hispanic***	0	0.0%	0	0.0%

Source: U.S. Bureau of Census.

* In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 0) and Asian (pop 0)

** In the 2000 census, this category was Some Other Race (pop 0) and Two or more races (pop 0).

***' Hispanic' is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).

Table 2.8-3 displays the population of St. George by housing type. As shown, none of the residents of St. George lived in group quarters in 1990 or 2000. Unlike the other Alaska communities profiled, St. George has seen virtually no commercial fisheries development onshore, and the lack of residents in group housing is consistent with no commercial seafood processing taking place onshore in the community during this period. Table 2.8-4 provides information on ethnicity and housing type for 1990 but again St. George is unique among the communities profiled with its lack of a group housing population segment.

Table 2.8-3 Group Quarters Housing Information, St. George, 1990 and 2000

Year	Total Population	Group Quarters Population		Non-Group Quarters Population	
		Number	Percent of Total Population	Number	Percent of Total Population
1990	138	0	0.0%	138	100.0%
2000	152	0	0.0%	152	100.0%

Source: U.S. Bureau of the Census 1990 STF2, Census 2000 Summary File 1

Table 2.8-4 Ethnicity and Group Quarters Housing Information, St. George, 1990

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	7	5.1%	0	0.0%	7	5.1%
Black	0	0.0%	0	0.0%	0	0.0%
American Indian, Eskimo, Aleut	131	94.9%	0	0.0%	131	94.9%
Asian or Pacific Islander	0	0.0%	0	0.0%	0	0.0%
Other race	0	0.0%	0	0.0%	0	0.0%
Total Population	138	100.0%	0	0.0%	138	100.0%
Hispanic origin, any race	0	0.0%	0	0.0%	0	0.0%
Total Minority Pop	131	94.9%	0	0.0%	131	94.9%
Total Non-Minority Pop (White Non-Hispanic)	7	5.1%	0	0.0%	7	5.1%

Source: U.S. Bureau of the Census 1990 STF2

Age and Sex

Table 2.8-5 shows the population composition by sex in 1990 and 2000. As shown, the male-to-female ratio is much closer to an even distribution reflective of a typical residential population than is seen in any of the other communities profiled. Unlike the pattern seen in the 'more industrial' crab communities, females outnumber males in St. George alone among the Alaska communities profiled.

Table 2.8-5 Population Composition by Age and Sex, St. George: 1990 and 2000

	1990		2000	
	N	**%**	N	%
Male	64	46.4%	73	48.0%
Female	74	53.6%	79	52.0%
Total	138	100.0%	152	100.0%
Median Age	NA		33.0 years	

Source: U.S. Bureau of the Census

The St. George school, a part of the Pribilof School District, provides kindergarten through twelfth grade classes. School enrollment figures for the 1993-2002 period are displayed in Table 2.8-6. As shown, student counts during this span peaked in 1996, and the current (2002) enrollment is only about 41 percent of that 1996 figure. Unlike some of the other communities profiled, no children associated with families of processing workers attend school in St. George (due to the nature of floating processing seen in the community in the past as well as the current lack of any processing).

Table 2.8-6 St. George School Enrollment, 1993-2002

Year	Student Count
1993	43
1994	42
1995	50
1996	58
1997	47
1998	34
1999	39
2000	31
2001	27
2002	24

Source: Data supplied by school district staff, October 2002.

Local Economy and Links to the Crab Fishery

As was the case on St. Paul, the federally controlled fur seal industry dominated the economy of St. George through most of the 20th century, although commercial sealing ceased on St. George several years earlier than

on St. Paul. The presence of large seal populations still contributes to the local economy, as the rookeries and the more than 210 species of nesting sea birds found on St. George's cliffs do support a modest amount of tourism, but local government and fisheries dominate contemporary local employment. The recently restored seal processing facility in the community may be developed as a interpretative and cultural center in conjunction with the USFWS, which manages Alaska Maritime NWR lands and other federally managed resources near the community. There is reportedly no local tourism related to sportfishing at present, although reindeer hunting does draw at least a few hunters from outside of the community, and some individuals temporarily in the community for work projects do at least occasionally take advantage of the opportunity to hunt while in St. George (which requires a $100 permit from the Tanaq Corporation to use corporation lands).

St. George has a workforce estimated at 82 residents, and there are approximately 45 full-time equivalent jobs in the community (APICDA 2002), with the largest block of jobs associated with the municipal government. Eleven residents hold commercial fishing permits for halibut. In the not too distant past, the St. George Aquaculture Association explored salmon and shellfish programs but is reportedly inactive at present (2002). Puffin Seafoods opened a small halibut freezing facility in the summer of 1998, and floating crab processors have operated seasonally in the harbor area since the local arrival of the Galaxy (operated by Dutch Harbor Seafoods, an affiliate of UniSea) in the 1980s, but both local halibut and crab processing have not taken place in the past 2 years.

Subsistence still plays a significant role in the household economies within the community. St. George residents may harvest up to 300 fur seals each year for subsistence use, but according to local USFWS personnel, in the last few years annual takes have been variable, with a high year being about 250 animals and a low year being about half that amount. Halibut, reindeer, marine invertebrates, plants, and berries are also subsistence resources that contribute to the local diet. According to local fishermen, subsistence halibut fishing has become more difficult in recent years than in the past, with some of it taking place 10 miles or more at sea, distances unheard of only a few years ago. There is speculation that the trawling that is permitted close to the community (unlike the situation at St. Paul) may be having a detrimental impact on the local subsistence fishery. Locals also report concern over an apparent decline in local fur seal and sea lion abundance.

Harvesting

According to APICDA estimates, there are approximately 28 local fishermen and about 12 local vessels in St. George, with the vessels ranging from 16 to 30 feet in length (APICDA 2002). Initially after the cessation of the commercial fur seal harvest, the Tanaq Corporation purchased 10 twenty-foot skiffs to help start a local fishery in the community by making it easier for residents to acquire vessels and in 1983 started a small fish processing plant in one of the former seal processing buildings. This facility also had a significant freezer capacity. Designed to be a small start-up operation that would eventually transition to a larger, more permanent facility across the island at the site of the present harbor, the cost of shipping product proved prohibitive. While the skiffs where the genesis of the local commercial fleet (and some remain in commercial and subsistence use), the processing portion of the enterprise folded before transition to a larger facility could take place. The local fleet has grown in recent years with the addition of larger vessels. APICDA has assisted in the capitalization of the community fleet, having made approximately $200,000 worth of gear and/or vessel loans to about 24 individuals, according to staff. Vessels were acquired on a revolving loan basis, with an APICDA/St. George Fishermen's Association joint venture guaranteeing the loans. To date, approximately 5 vessels in the 25- to 28-foot class have been added to the fleet in this manner. According to St. George Fishermen's Association representatives, there are approximately 10 vessels total in the local commercial fleet, with the balance of local vessels participating in subsistence fisheries. While this still represents a small number of relatively small vessels relative to many other communities, it is considered relatively efficient for

harvesting the comparatively modest local halibut quota. The community receives a separate allocation of Area 4C halibut, with St. George in the past having gotten 10 percent and St. Paul 90 percent of the total. An increase in the St. George allocation of 15 percent has been proposed, but action has not been taken on the proposal at the time of this writing. Another recent development has been the move of a dedicated 35-foot APICDA-owned vessel from Atka to St. George to tender halibut from St. George to St. Paul.

The primary fishery pursued from local vessels has been halibut utilizing longline gear, although use of jig gear was more common earlier in the development of the local fishery, and jig gear is still in use but more typically on the smaller vessels in the fleet. There is no local commercial cod fishery as tendering cod is not economically viable, and with the exit of crab processing from the community, the potential for the development of a local market of cod for hanging bait has disappeared. The local window for halibut fishing is reported to be 2 months at most, with difficult weather conditions further reducing opportunities.

There are no local crab vessels owned by residents of St. George, although APICDA, of which St. George is a part, does own interests in crab catcher vessels. As there is no local crab processor, there is also no regular delivery fleet. In the relatively recent past, floaters such as Blue Wave and SnoPac have processed crab seasonally while moored in St. George harbor (see below), and these entities had their own associated delivery fleet from outside of the community.

There is an active St. George Fishermen's Association in the community, and this organization has ties to APICDA to the extent that the APICDA board member representing the community is elected by the fishermen's association, and the association receives approximately $20,000 per year in funding from APICDA to help offset operating expenses. According to local fishermen, the focus of APICDA in recent years has been on infrastructure for crab processing and fostering a local multispecies processing plant in the community rather than on building a larger harvest fleet in the absence of local processing.

Processing

Due to the few number of entities involved, confidentiality restrictions constrain a quantitative discussion of crab processing in St. George. However, a summary discussion of processing in the north region as a whole, effectively comprised of St. Paul and St. George, appears in the St. Paul profile (above) and will not be recapitulated here. As noted in that discussion, opilio is, by far, the most economically important species to local processing, and therefore the most important in terms of generating local revenues. Opilio accounted for 100 percent of the local processing of relevant BSAI crab species in 2000, and 86.3 percent of total BSAI crab processing over the period 1991-2000.

When crab stocks (and quota) were large, smaller floaters processed in St. George harbor (larger floaters were precluded by the size of the harbor), but with depressed crab stocks such operations have reportedly not been economically viable. For the period 1991-2000, typically one such floater operated in St. George (with two present in 1995). Additional floaters may have operated near St. George but do not have a processing location specified in the available database. Further, according to local sources, St. George does not have anchorage locations for processing outside of the local harbor (unlike St. Paul, with its relatively protected bays), so that floating processing in the vicinity of St. George either occurs in the harbor or not at all. Those companies that operated most recently in St. George in this time period (1991-2000) have indicated that their processing platforms have not operated in St. George since 1999 in one case, or since 2000 in the other, so in the most recent years, St. George has seen no local crab processing. According to local sources, in 2000 Blue Wave/Peter Pan did not feel they could economically operate locally in the face of very low crab GHLs, and SnoPac felt that local operations were potentially viable only after APICDA assumed responsibility for 50 percent of the risk in return for 50 percent of potential profits for local operations. APICDA was willing to assume this risk given that without such a move, the community would be entirely cut off from revenues

associated with the crab fishery. In 2001 and 2002 (to date), no processors have operated locally. According to local sources, Blue Wave is for sale and will not be returning to the community, and SnoPac has indicated that they will not be returning to the community until GHLs are higher.

The withdrawal of the floating processors from the harbor at St. George has had significant consequences for the community as a whole, with marked impacts to support businesses in the community as well as the municipality itself. These are detailed in the support services discussion below.

Few local residents (estimated by one source as approximately five individuals over the years) are reported to have derived employment from processing work on factory trawlers or factory longliners that APICDA has made investments in. This is reportedly because employment outside the community is less appealing to local residents than attempting to find employment within the community.

One of the primary goals of local fishing interests and APICDA is the construction of a seafood processing facility on St. George. Puffin Seafoods LLC was organized in 1998 as a partnership between APICDA Joint Ventures (their for-profit division) and the St. George Fishermen's Association. Puffin Seafoods essentially acts as a buyer/facilitator for the fleet harvesting St. George CDQ halibut. In the first year of operations, emphasis was placed on the fresh fish market, but transportation problems related to cost and consistent access to St. George created significant difficulties. In more recent seasons, halibut has been tendered from St. George to St. Paul to be processed at the Trident plant on St. Paul. This has reduced the potential positive effects of shoreside employment in St. George associated with halibut processing (APICDA 2002). Given that tendering rather than processing has been taking place, this has also reduced the economic viability of other local fisheries. For example, it is not presently considered economic to tender cod to St. Paul, effectively meaning the lack of local processing has curtailed local pursuit of this fishery. In the recent past, fish handling and processing took place in a recently renovated harbor building. This renovation included APICDA investment, with the ground floor dedicated to fishery activities, and the second floor to the harbor master's office and additional office space. With the recent switch from local halibut processing to tendering from St. George to St. Paul, however, halibut no longer comes ashore, and processing equipment was removed from this facility. Halibut from St. George is currently custom processed at the Trident facility in St. Paul, and then marketed through APICDA.

APICDA is actively exploring the potential for other fisheries that could be pursued by local fishermen and that would help form the underpinning for local processing. A local urchin fishery is reportedly a possibility, and APICDA has been working with ADF&G on survey assessments of the potential for this fishery. A small urchin fishery was scheduled to open in September 2002 with the harvest flown live to Japan. Based on results, it is hoped that this fishery could help local harvests reach 'critical mass' to support local processing. Other fisheries mentioned as potentially viable with local multispecies processing capability were crab, cod, and sea cucumbers, among others. The potential for crab boats turning to pot cod for local processing following the closure of crab season has also specifically been mentioned. A business plan for a local processing plant is in development (and may include the different entities that processed locally in different years), but in general it is hoped that construction of a plant could begin in 2003 with an opening date in 2004. According to community leaders and APICDA staff, however, this plan could be significantly set back by state reductions in CDQ crab allocations to the group, and a state conclusion that a local multispecies processing plant is not feasible for St. George. It is the strong opinion of St. George community leaders that if St. George is forced to join forces with St. Paul for a common multispecies processing plant, the benefits of that operation would redound to St. Paul and do little for St. George (other than make it all the more difficult to accomplish a sustainable local fisheries sector of the community economy).

Support Services

The support services sector in St. George has changed dramatically in the last few years with the disappearance of crab processing in the community. St. George, like neighboring St. Paul (and the other rural Alaska communities profiled), is accessible only by air and sea. A newly constructed State-owned airport with a 5,000-foot gravel runway is near the recently completed harbor, several miles outside of the community proper and serviced by a recently widened and improved road from the community. Scheduled flights are provided to St. Paul and the mainland. At present (2002), there are three scheduled flights weekly to Anchorage, a significant drop in service from levels seen during the era when local crab processing took place.

Zapadni Bay Harbor, 5 miles from the city, was completed in 1993. Previous facilities, off of the former seal processing facilities in the community itself, are exposed to the open sea and required lightering. Lightering was often accomplished using traditional baidars, skin, and later canvas-covered wooden framed vessels that could handle surprisingly heavy loads, including trucks. The exposed dock facilities and the surrounding area were deemed not practical for redevelopment as a more full-service facility, although historical plans in the community show harbor improvement drawings with massive breakwaters dating from the early 1900s.

An inner harbor and dock were recently completed in Zapadni Bay by Kayux Development LLC, a joint venture formed in 1996 between APICDA Joint Ventures and the St. George Tanaq Corporation. The inner harbor development consists of 4 acres of improved uplands and a 1.25-acre mooring basin, and available services include dockside power, water, and fuel delivery; moorage; uplands storage; and outfall and breasting dolphins for a shoreside or floating processing facility. According to APICDA, the CDQ organization has made substantial investments in community fisheries-related infrastructure projects, including approximately $1.3 million in matching funds for the dredging of the inner harbor in 1993 (with a benefit to APICDA deriving from a lease arrangement for waterfront space), and an approximate $1.8 million investment in 1998 for dock facilities (with the Tanaq Corporation providing the land). In its present configuration, the city owns two dock facilities in the harbor where most recently SnoPac and Blue Wave floating processors worked (one of these facilities includes two concrete dock platforms, while the other does not have analogous features), and the Tanaq Corporation/APICDA joint venture owns two other major improved docking facilities, one with a single concrete dock platform, and one without. Recently, the St. George Fishermen's Association installed a wooden floating dock in the harbor for the local small boat fleet. There is a 500,000-gallon water storage recently constructed near the harbor available to supply fishing and processing entities, but this has been virtually inactive as of late.

There are local concerns that maintenance of the harbor will be more costly than anticipated (reportedly, one of the arms of the harbor is breaking up and in need of repair, and the dredging needs improvement), and that costly work will be difficult to undertake in the absence of substantial commercial activity at the facility. A conundrum of local harbor development is that local processing appears to make more economic sense for at least some companies in a derby rather than a rationalized fishery, but harbor size and geometry combined with occasionally rough sea conditions has meant that St. George has at times experienced periods of closure during the relatively short seasons. A 2-day closure during, for example, a 7-day derby fishery, is understandably problematic. In other words, the intense time pressures of a derby fishery made the harbor very attractive to at least some medium-sized processors, but the time pressures of these same fisheries also made even short closures all the more adverse to the economic success of these locally operating entities.

A local fuel facility adjacent to the harbor, operated as a joint venture between the Tanaq Corporation and Delta Western, includes a 1-million-gallon tank farm and supplies diesel fuel to fishing vessels. Constructed in 1993, the facility first delivered fuel to vessels in 1994. (The tank farm also includes a 50,000-gallon gasoline tank and a 50,000-gallon Jet A fuel tank for local vehicle and aircraft consumption, respectively.)

A pipe system is in place to allow delivery direct to vessels at four fuel stations on docks in the harbor. Designed to allow for race-for-fish conditions, the vessel fueling system has a 600-gallon-per-minute delivery capacity (if the receiving vessel is properly equipped). During busy crab periods, operations could extend to 24 hours per day, and peak demands were reached in-season when facilities at St. Paul would occasionally close due to ice conditions. Under these circumstances, demand reportedly could easily reach 150,000 to 200,000 gallons per day, with the facility manager reporting that the 24 hour record for sales was over double that figure. With the decline in crab quota and the move of processing out of the community, fuel demand has dropped sharply. Built primarily to supply the crab fishery, the facility has reportedly seen a drop from approximately $1 million in revenues to a situation where it is currently "barely surviving," and employment has been cut from 8 to 3 individuals over this same time. This has had ripple effects in other aspects of community life as commercial fisheries fuel sales effectively acted as a fuel cost subsidy for the rest of the community. Without commercial marine sales, fuel costs have risen, and this has reportedly resulted in increased utility costs in the community, meaning that at the same time the community is experiencing a loss of revenue and employment, the cost of living is increasing. Incidental sales to vessels fueling at the facility, such as oil, filters, and batteries, have also dropped to near zero. While not the main thrust of the business, it is estimated that at the peak of the season the facility would move between 25 and 50 drums of oil per day, which was a good revenue producer, if a small one, compared to overall fuel sales. The local facility manager reports that these incidental sales, such as specialty oil filters, also served to boost fuel sales. As for the Tanaq Corporation as a whole, temporary local environmental clean up work has served to offset at least a portion of the losses experienced at the fuel facility, as the soil remediation technique being used consumes a significant quantity of fuel. These sales allowed the facility to turn at least a small profit until 2001 (after cutbacks).

In addition to being an investor in fuel services, the Tanaq Corporation also has a crab pot storage area to help service that fleet. However, without local processors present, and with the drop in GHL, the use of these crab support services have reportedly dropped off dramatically as well. The pot storage area is comprised of leveled uplands that were also used as staging areas during harbor dredging operations. With storage capacity of over 10,000 pots, only about 2,000 to 3,000 were being stored on-site at the time of fieldwork (2002), and a majority of these were deemed to be inactive. In the past year, only 3 boats are reported to have retrieved gear, in contrast to 20 to 30 vessels actively moving gear in previous years. In the past, peak demand conditions were driven by ice movements, with vessels racing to retrieve gear from the grounds in front of advancing ice to the north of the island. Revenue losses from the absence of the fleet is locally estimated to be in the $30,000 to $60,000 per month range for storage and associated support, with an estimated 50 to 60 boats out of a 240-boat fleet calling on the community at least occasionally. The Tanaq Corporation also has a 40-man camp/bunkhouse facility near the harbor that was brought to the community primarily to support processing crews, although it was also used as temporary housing for harbor dredging workers. Brought to the community from the Lower-48, it required additional (and unanticipated) investment to bring it up to more stringent fire code standards. Formerly leased out to Seven Seas and Blue Wave, this facility has been idle since the decline of local crab processing 2 years ago. With an estimated loss of $60,000 per month for a typical 3 months per year of operation, this has not been an insubstantial impact to the corporation. Demand for camp housing dropped when GHL declined to the point where one rather than two shifts were all that were needed to process product, and then disappeared altogether when GHL declined below the threshold needed to efficiently process locally. The Tanaq Corporation has a storage building near the harbor, formerly used for fiber/boxing materials for processing, that is now idle as well.

One of the entities that processed locally up until 2 years ago, SnoPac, leased land from the Tanaq Corporation and maintained their own generation plant, sewer system, and bunkhouse with an adjacent kitchen/mess hall for processing crew. The bunkhouse facility was relocated to St. George from St. Paul, and had a capacity of approximately 200 to 250 persons. With the suspension of local crab activity, this facility was also idled, although lease payments were eventually made to the Tanaq Corporation through the use of

crab disaster funds. The future of the lease arrangements is not clear, however, absent future local processing. The Tanaq Corporation also derived income from leasing land to Northland Services for freight operations to move crab from the community (dockside space as well as upland storage areas for containers), but this source of revenue has gone away with the processing. The Aikow Inn, the 10-room Tanaq Corporation-owned hotel in the community proper, has also reportedly seen a substantial loss of business with the decline of crab-related trade, although it remains busy in the summer with tourism and other seasonal business, including construction-related work. In all, the Tanaq Corporation estimates that approximately one-half of its budgeted revenue sources were related to crab support operations. The corporation has reportedly made up enough of this shortfall through ongoing environmental cleanup work to not have to cut its workforce (estimated at 6 regular employees, with an additional 12 or so active for specific projects), but given the limited duration of the cleanup work, it would appear that substantial impacts associated with crab losses have been delayed rather than avoided. Recent cleanup work has included remediation of former government structures, underground and above ground storage tanks at former government buildings, and contaminated soils. In the face of the economic declines in the community, the Tanaq Corporation is actively looking for opportunities outside of the community to bring revenue to its shareholders, with the trade-off being that such opportunities do not afford the same potential for local employment.

In general, only limited support services exist in St. George compared to a number of other crab fishery-associated communities, although harbor development continues and the community in conjunction with APICDA is working toward establishing a local processor that could, in turn, support local (community) fishermen. At present, the support facilities that do exist are more oriented toward supporting the big boats associated with commercial crabbing rather than the smaller-scale local fleet. In 2002, however, a new floating dock system designed for local boats and funded at approximately $200,000 through crab disaster monies was added to the harbor.

Most freight and supplies are delivered by ship from Anchorage, while cargo from Seattle arrives five or six times a year. Whereas, there used to be barge service several times per month to the community during the years of local crab processing, at present (2002) the community is serviced by (Alliance Marine) freighter only once per month. This drop in service has resulted in a number of impacts, such as increasing cost and decreasing availability for a number of items, including foodstuffs. Air service has also declined, both in passenger flight opportunities and for cargo flights. During crab processing times, Northern Air Cargo would service the community several times per week with commercial shipping and bypass mail, but at present only supplies cargo service on a monthly basis.

The St. George Canteen, the community store operated by the Traditional Council, has also seen a decline in business as a result of the community's loss of crab-related activity. Store management reports that vessel orders have ceased entirely, along with special orders from the SnoPac processor, for an estimated loss of between $100,000 and $125,000, a not insignificant sum for a small community enterprise. The store manager reported that in the past year there were perhaps two incidental sales to vessels, and these were not significant compared to past sales and, as a result, it is "a stretch" to try and maintain a viable store.

Another indirect support service impact seen in recent years with the drop-off of local crab deliveries and processing has been support services at the local clinic. Run by the St. George Traditional Council, the clinic derived benefit from the increased level of activity during the previous seasons that brought vessel crew and processing workers to the community, and industrial-type versus residential-type of service demand. Quantitative data to the change in service demand over recent years were not available (at least in part due to staffing cutbacks caused by drop in the service demand itself), but without crab-related business the Traditional Council staff reports that the clinic has been experiencing a loss of approximately $45,000 per year in third-party billings. During the period of local crab processing, the clinic was staffed with a physician's assistant, two community health aides, and a clerk, and now staffing is down to one position, filled

with itinerant persons rotating through the community on a short-term basis. This has resulted in a decrease in services available to the community as a whole, and it has compounded the problems of collecting revenue from third-party billings (as it is difficult to follow through on administrative detail without a permanent staff) and attracting a permanent staff (as an understaffed/undersupported facility is less attractive to potential employees than other opportunities).

Another recent change in the support businesses in the community can be seen in the decline of what could be characterized as very small or entrepreneurial businesses. Within the last 2 years, residents report that a video store, a restaurant run by the Traditional Council, a hat and jacket embroidery business, and a rug cleaning business have closed, and that other businesses are struggling, such as the local taxi business, due to the loss of the volume of economic activity provided by crab processing workers and operations (or the depression of the local economy in general as a result of the loss of crab). The Traditional Council has also had to cut hours for their community janitorial services staff, and has had to shelve plans for provision of cable services to processing facilities, and their canteen and beer hall has seen a reduction in business and staff. The absence of crab-related activity also has meant a loss of opportunity for the sale of local arts and crafts (commonly done through the community store), as well as a loss in electronics sales, in particular at the store.

Community support services provided by the Traditional Council have also felt the impact of the local decline of crab processing. The local programs manager reports that applications for food stamps, energy assistance, and other public assistance types of social services programs doubled or tripled in the past 3 years, depending on the specific program. Foodbank of Alaska, a new service in the community, has recently begun to provide food to families in need.

Another factor reported as having an impact on the community is a loss of population due to the lack of local economic opportunities. According to community leaders, it is difficult to tell young people there is a good future for them in St. George when the overall community economic picture is not bright. Loss of population is not new to the island as, for example, local officials noted that during the 1960s the federal government encouraged St. George residents to move to St. Paul. In recent years, some local residents went to Adak for redevelopment-associated employment, although none are apparently there at present. Most recent migration from the community has reportedly been to Anchorage. While it cannot be discussed in quantitative terms, one village leader observed that the depressed local economy and the apparent lack of economic potential for the future "takes the pride out of the community."

Also not easy to quantify is the reported loss of direct social benefits of having processing entities and their workers in the community. According to those responsible for social services in the community, the presence of the processing entities provided a lot of social activity for the community and brought different people to the community, which was in and of itself a positive attribute for a small, relatively isolated village. The processors also were instrumental to the success of such things as volleyball and other sports tournaments and were active in fundraisers for the community. While not in the community the entire year, they were reportedly involved in community Halloween, Christmas, and Easter events in one way or another, including the donation of funds and raffle prizes. Other recognized contributions to the community included donations of food to those in need as well as for the local summer camp. At times processors would invite the community to social events at the processing facilities, with examples of a movie night and a talent show given. In the words of one community leader, having the processors was "good for morale in community" and there were "no problems in the community" because of the processors, and they were "welcomed into village." The loss of local processing has also made a difference in these intangibles of community life.

The Municipality and Revenues

Table 2.8-7 presents information on St. George municipal revenues for 1999 and 2000 as obtained from the DCED website, consistent with the information presented for the other communities profiled. (The data in this table are not consistent with those obtained directly from the City, as detailed below.) St. George does not have local sales or property taxes, but it does have a 3 percent fish and marine products tax and a 3-cents-per-gallon fuel transfer tax.

The figures presented in Table 2.8-7 differ substantially from more detailed, specifically fishery-related revenue figures provided by the City of St. George, but detailed figures cannot be directly incorporated into this profile due to processor confidentiality considerations (as there were less than four operations present in the community). In general, the City derives revenue from fisheries-related activities in a number of different ways. The most obvious of these is the local fish tax. Local fish taxes (historically derived from crab processing by floating processors) declined over fivefold from 1999 to 2000, and no revenue from fish taxes was expected in either 2001 or 2002. The state-shared fish tax tells a somewhat different story with respect to the timing of local revenue declines, but this is a function of the year lag between the sales associated with tax origination with actual receipt of revenue from the state, with the latter determining when revenue appears in city records. The fuel transfer tax also shows a sharp decline between 1999 and 2000, and this is also attributed to the pull-out of local processing. Also, the City lost substantial revenues between 1999 and 2000 in enterprise funds closely associated with local processing. Two enterprise funds show a different pattern from the others: preferential berthing and wharfage. Preferential berthage is essentially monies paid to the city to guarantee access to particular dock and harbor facilities. These are long-term agreements, and in 2000, the City allowed a one-time suspension of payment under the terms of the agreement. Otherwise, the City may receive this revenue whether or not the companies actually use the site (at least as long as the company is able to pay their bills). Revenue from catcher vessels using the facilities (they are charged by length and by overall time at the dock) have dropped off entirely. Wharfage did not decline in the same manner as other indicators because in addition to fishing-related activities it captures activity related to the delivery of groceries, machinery, etc. In 2001, there was also a relatively large wharfage volume related to a project that involved transportation of rock to St. Paul.

The decline in local revenues associated with the loss of local crab processing over the last few years has had a number of negative impacts on the community. Income has dropped in the community, with perhaps the single hardest hit institution being the City of St. George government. According to senior City staff, the approximately 20 persons working for the City have been reduced from 80 to 64 hours per 2-week pay period. For some, this has the prospect of not only having a negative impact on current income, but also on retirement funds. City-provided services have also been effected. With about a 60 percent drop in water supplied by the city system, and substantial drops in sewer and refuse service, the ratio of industrial to residential demand has dropped sharply along with the level of overall demand. Fuel costs, no longer essentially underwritten by industrial demand, have also risen, and this has had the effect of driving up the cost of producing electricity locally. As a result of these changes, the City has felt compelled to raise the cost of utilities and services. The population of the community, then, is faced with declining income, declining revenues, and increased cost of living. Additionally, there are costs associated with maintaining the recently completed fishery-related infrastructure improvements. At the same time, residents report that there has been some out-migration from the community as some individuals and families have sought better economic opportunities elsewhere, meaning that a smaller population base is bearing the increased costs on St. George.

Table 2.8-7 St. George Municipal Revenues, 1999 and 2000

Revenue Source	1999	2000
Local Operating Revenues		
Taxes	$0	$0
License/Permits	$0	$0
Service Charges	$930,052	$59,448
Enterprise	$1,587,368	$389,565
Other Local Revenue	$0	$933,699
Total Local Operating Revenues	$2,517,420	$1,382,712
Outside Operating Revenues		
Federal Operating	$0	$7,591
State Revenue Sharing	$35,305	$27,818
State Safe Communities	$5,279	$3,266
State Fish Tax Sharing	$10,389	$909
Other State Revenue	$0	$0
State/Federal Education Funds	$0	$0
Total Outside Revenues	$50,973	$39,584
Total Operating Revenues	**$2,568,393**	**$1,422,296**
Operating Revenue Per Capita	$14,846	$8,673
State/Federal Capital Project Revenues	$47,512	$355,208
TOTAL ALL REVENUES	**$2,615,905**	**$1,777,504**

Source: DCED Website, 2001, 2002

The municipal revenue shortfall that has accompanied the exit of local crab processing has also meant that the City of St. George has had difficulty meeting the obligations incurred with the harbor development. Reportedly, all of the entities in St. George, including the Tanaq Corporation and the Traditional Council have assisted the city in one way or another in helping to see the harbor development come to fruition, as it is the common view of the various entities that the economic future of St. George rests with commercial fisheries in one form or another. This support has included short-term financial support, but the City still has incurred the obligations in the long term, and the loss of revenues has been sorely felt. As noted above, the loss of revenue has been accompanied by a loss of services to the community, an increase in costs for some basic needs (such as fuel and utilities), a decrease in employment, and a loss of population, meaning that costs and losses are borne by a smaller base.

Summary of Recent Community Fishery IFQ/Co-op Rationalization Experience and Implications for Likely Crab Rationalization Impacts

As was seen in St. Paul, some St. George residents received halibut IFQs in the initial allocation process, but not a large number or a large amount of quota. Subsequently, programs with the goal of enabling local residents to acquire more IFQs and boats suitable to harvest them have been formulated through the St. George Fishermen's Association. The program on St. George is not as developed as on St. Paul, in part due to the lack of processing on St. George. This is probably not a good model, however, for local crab fisheries and what might reasonably be expected to happen under the rationalization alternatives. Local fishermen have only limited experience in these crab fisheries (as crew members), which require vessels larger than local fishermen use for halibut and potentially could use for some other fisheries. The present harbor cannot accommodate this size of vessel as part of the resident fleet, and existing facilities St. George cannot

adequately service and supply these vessels on an ongoing basis. The capital investment to enter crab fisheries would be much greater than for halibut.

In terms of the AFA-related pollock co-ops, St. George was not a direct participant in the co-op structure due to the lack of local pollock processing, nor is it home port to pollock catcher vessels. Like St. Paul, however, St. George has benefitted from investments in the fishing industry enabled through the CDQ program. Expansion of the CDQ program into multispecies fisheries has increased this kind of opportunity.

Given the truism that any sort of a crab rationalization program potentially makes the Pribilofs a less competitive location to process crab, rationalization is likely to negatively affect St. George, unless a regionalization provision is adequately designed to effectively foster and/or lock in some level of processing in the community. St. George faces the additional challenge of still having to compete with St. Paul even within the regionalization framework unless community specific protections are adopted, as movement within the region can be accomplished without restrictions, and St. Paul at present has better harbor facilities than St. George. Since there is no local crab fleet, the local impact of the various alternatives focus nearly exclusively on the potential for changing the processing context. An additional local concern relates to the fact that, given AFA restrictions and the provisions of the crab rationalization alternatives, there will not be many truly independent catcher vessels in the same sense that there are today. This has the potential to limit St. George's competitive position with respect to obtaining local crab deliveries from an external fleet.

As noted in the St. Paul community profile, the regionalization provision in the "three-pie" alternative was included in the NPFMC preferred alternative formulation process in recognition of the fact that with no restrictions on the port of delivery and processing of crab, pure economic incentives may shift most if not all crab production away from the Pribilofs. While St. Paul in particular was the primary focus of the debate before the NPFMC regarding the costs and benefits of regional community protection, regionalization could serve to benefit St. George as well. The degree and amount of a shift of processing away from the Pribilofs within a rationalized fishery absent regionalization, or the degree of shift between St. George and St. Paul in a rationalized fishery with regionalization, would depend upon the economic decisions of the processing entities involved, and the economic benefits to be derived from such shifts could only be evaluated through a detailed knowledge of their operating costs.

Without community-specific protection, the impact of the rationalization alternatives on St. George are likely to result in conditions similar to those experienced over the past 2 years that St. George has been without local processing. More accurately perhaps, absent community specific protection, rationalization could be expected to continue the conditions seen since processing left the community, as there would be little incentive to return to St. George even if GHL/TAC were to once again climb to levels much higher than seen in the past 2 years due to likely consolidation of processing under rationalization conditions. This would, of course, depend on both the restrictions on consolidation and/or community protection features in combination with individual entity economic decision making, something that is difficult to anticipate.

Differential Impacts of the Three Rationalization Alternatives at the Community Level

As summarized above, for St. George the engagement in, and dependency on, the BSAI crab fishery is based primarily upon ties to local processing activity and secondarily on participation in the CDQ program. Beneficial or adverse impacts to the community of St. George deriving from the different rationalization alternatives result from the differential outcomes for these activities.

Each of the rationalization alternatives have identical provisions regarding increased allocations to the CDQ program (inclusion of additional species and an increase in the included species set-aside from 7.5 to 10 percent of the total allocation), creation of captain’s harvest quota shares (3 percent of the TAC), and a

community development allocation to Adak (10 percent of the WAI golden king crab allocation). Each of these provisions are directed toward fostering beneficial community or social impacts for at least some groups or areas. St. George, as a member of the APICDA, would directly benefit from the CDQ program increases. Impacts of the creation of captains shares and the Adak community allocation would not be significant for the community of St. George.

Regionalization is a feature of the three-pie alternative and the IFQ alternative, but is not a part of the cooperative alternative. Regionalization is explicitly designed to create beneficial community or social impacts for at least some groups or areas. The north/south region designation was designed primarily to benefit the Pribilofs (although St. Paul was featured more prominently in the alternative and options formulation process), while the west region designation in the WAI golden king crab fishery was designed primarily to benefit Adak.

Impacts of the west region creation would be insignificant for St. George. Impacts of the creation of the north region under the three-pie alternative would be significant and beneficial for St. George, while regionalization impacts for the community under the IFQ alternatives are more difficult to predict. Under the three-pie alternative St. George (if deemed an eligible community) would retain levels of processing activity seen during the qualifying period (due to a combination of regionalization and community protection features, as described below). In the case of the IFQ alternative, however, St. George could see a substantial drop in (or a complete discontinuation of) local processing activity if north region processing activity consolidated in St. Paul. If this consolidation occurred the regionalization feature under the IFQ alternative would have effectively provided no benefit for St. George, and the impacts would be significant and adverse for the community. The cooperative alternative would have significant adverse impacts for the community of St. George due to lack of a regionalization feature. Under this form of rationalization, processing activity in St. George would be expected to decline substantially from qualifying period conditions, if not vanish entirely. As detailed above, the negative impacts of this change would be profound for the community.

Additional community protection features of a "cooling off" period and a right of first refusal on transfer of processing quota shares are a part of the three-pie alternative (and are not a part of any other alternative). Eligible communities (those that had 3 percent of processing activity for covered species) would be assured that during the 2-year "cooling off" period processing quota would not be moved out of the community. Subsequent transfers would be subject to a right of first refusal that would allow an eligible community (through its CDQ group or another community group, if a CDQ group were not present) to obtain ownership and control over processing quota to retain local processing activity. (Due to confidentiality restrictions, it cannot be disclosed whether or not St. George is deemed eligible for community protection provisions.)

For St. George, if eligible, both of these features would confer significant beneficial community and social impacts. The "cooling off" period would ensure that processing activity levels seen in the qualifying period would return to the community. Processing has not taken place in St. George for the past few seasons, but under the "cooling off" provisions processors would need to return and process locally for at least 2 years if they wish to utilize their processing quota shares. This infusion of activity alone would have significant beneficial impacts for the community. The right of first refusal would ensure that the local CDQ group, APICDA, would be able to obtain processing quota if it were at risk for leaving the community in the future. Exercising the right of first refusal would result in a significant positive benefit to the CDQ group, and would most likely benefit the community to nearly the same degree. It is assumed that APICDA would manage any quota obtained for St. George's benefit, but APICDA represents a constituency across a number of communities and it is possible that at least some of the benefits derived from ownership of processor quota share obtained through exercising a right of first refusal on quota share originally generated by activity in St. George would be realized outside of St. George. In practical terms, within the north region, the "cooling off" period and right-of-first refusal community protection provisions are fundamentally more important to St.

George than they are to St. Paul. St. Paul has some inherent advantages over St. George in attracting processing activity, and if movement of processing activity within the north region is not impeded by specific community protection features, a consolidation of all north region processing into St. Paul may be predicted. Consolidation within the north region into St. George is possible, but is not considered likely. As a result of these considerations a lack of specific community protection provisions in the IFQ alternative (despite its having a regionalization feature) may result in significant adverse impacts for St. George.

The rationalization alternatives also differ on the ability of communities to obtain harvest quota share. Under the three-pie and IFQ alternatives, CDQ groups, or other community groups if a CDQ group is not present, in eligible communities (again, those with 3 percent or more of processing activity for covered species during the qualification period) would be able to purchase harvest quota share due to a waiver of sea time requirements that would otherwise prevent such purchases. By design, the ability to obtain harvest quota share could result in beneficial community and social impacts through communities becoming more directly engaged in the fishery.

In the case of St. George, harvest quota shares, if purchased, would be obtained by APICDA. Given that St. George is one of several community members of APICDA, benefits of harvest quota share ownership would be spread across a base of multiple communities. While still clearly beneficial to St. George, this geographic dispersion of benefits would lessen the overall impact of this feature on the community itself. Nevertheless, if exercised, this ability could result in beneficial community and social impacts through the community becoming engaged in the fishery in a way that it is not under existing conditions.

Another potentially distinguishing feature of the rationalization alternatives from a community or social impact perspective is the ability of harvesters to form co-ops under the three-pie and cooperative alternatives (but not under the IFQ alternative). For St. George, this ability (or lack thereof) would not appear to result in significant beneficial or adverse impacts given its current nature of engagement with the fishery.

2.9 KODIAK

The community of Kodiak is located near the eastern end of Kodiak Island in the Gulf of Alaska, the largest island in Alaska and second in size within the United States only to the island of Hawaii. It is 252 air miles southwest of Anchorage, a 45-minute flight. The City of Kodiak, incorporated as a Home Rule City in 1940 and encompassing 3.5 square miles of land and 1.4 square miles of water, is part of the Kodiak Island Borough (KIB). Kodiak NWR encompasses nearly 1.9 million acres on Kodiak and Afognak Islands.

The climate of Kodiak Island has a strong marine influence with moderate precipitation, occasional high winds, and frequent cloud cover and fog. Severe storms are common from December through February. Annual rainfall is 67 inches, and snowfall averages 78 inches. January temperatures range from 14 to 46°F, with July temperatures varying from 39 to 76°F.

This community profile will draw upon previous community and sector profiles developed for the NPFMC (IAI 1991, 1994) and other federal agencies (Northern Economics 1994) as well as more current information from the Groundfish SEIS (NMFS 2001c) and field interviews conducted for the AFA Report to Congress (NPFMC 2002) and Steller Sea Lion Protection Measures SEIS (NMFS 2001a) analysis. These secondary materials have been supplemented with additional fieldwork and quantitative data analysis specific to this project.

Kodiak's identity is that of a fishing community. Through time, both its fishermen and processors have developed an engagement in and dependency upon crab fisheries (summarized below), but a singular characteristic of both sectors is the participation in many different fisheries. That is, many participants

display a wide diversification in their fishery operations. This section will focus on their participation in the crab fishery, and on linkages between the community and the crab fishery.

Commercial fish processing in the Kodiak region began on the Karluk spit in 1882. Not long after that, canneries[33] were established in the community of Kodiak. While the quantity and form of shore processing plants in Kodiak have changed, this sector remains an influential component of the fishing industry that is, in turn, fundamental to the community and its economy.

Shore processing facilities or canneries in the Kodiak region concentrated primarily on salmon and herring prior to 1950, although there was a cold storage facility at Port Williams where halibut was frequently landed. As their common name suggests, the product produced was most often canned fish. Cannery operations expanded in the 1950s to accommodate king crab processing. Thirty-two processors processed 90 million pounds of crab in 1966. In the following years, there was some growth within the sector; for example, one new shore plant was built in Kodiak in 1968. Declining harvest levels, however, prompted several shore plants to move their operations during the late 1960s and early 1970s to Unalaska/Dutch Harbor in the Aleutian Islands, closer to the larger supply of Bering Sea-Aleutian Island king crab. This move also diverted some of the crab that had previously been taken to Kodiak for processing, and the number of shore plants in Kodiak declined by more than half. A temporary resurgence in the Kodiak red king crab stocks in the mid-to-late 1970s instigated expansion of existing plants once again and fostered the building of two new plants in Kodiak. Larger freezing capacity was a notable addition to most of the shore plants. This allowed flexibility in storing larger volumes and processing more species into more diversified products. Larger docks also became important to the processors so that they could unload more boats in a given amount of time. With a larger overall capacity to process fish, competition by the plants for the fish resource increased, and the rate of return for individual shore plants declined. Diminishing crab stocks as the fishery entered the 1980s compounded this problem. After a record catch in 1980, the Kodiak king crab stocks crashed. Several factors, including overharvesting and natural conditions, have been cited by fishermen and scientific sources as contributors to this collapse. There has not been a red king crab opening in the Gulf of Alaska since 1982. Waters around Kodiak still produce tanner and Dungeness crab fisheries, and Kodiak shore plants process these species in addition to deliveries of crab they receive from boats returning from the Bering Sea fishery.

When king crab stocks started to crash in the late 1960s, some of the Kodiak plants sought to diversify. At least one plant added facilities to separate the previously dominant crab line and the main plant was then converted into a shrimp plant. Other plants report they "evolved into shrimp" to augment their crab production. Kodiak shrimp landings peaked in 1971, and stocks crashed in the late 1970s. The reason, while not definitive, may have been related to predation by large stocks of cod and pollock. Between 1978 and 1981, several Kodiak processing plants stopped shrimp production.

Efforts to fish Dungeness crab along the Kodiak coastline were slower to intensify, and landings peaked in 1981. At about the time when the Kodiak shore plants started processing shrimp, the bairdi tanner crab fishery "started to become a reality," but the tanner crab seasons, like the seasons of other crab species, soon became shorter and less productive. Many of the plants maintained halibut production lines while they were processing crab, shrimp, and salmon. At that time, halibut processing was not the intense activity it was to become under the derby type open access system. The season was open most of the year and there were relatively few boats fishing it. As the crab and shrimp faded as viable resources to maintain shore-plant production, salmon became much more important to the processing companies in Kodiak, as they continued looking for products to fill the gaps in their production.

[33] The term "cannery" is still commonly used in Kodiak to refer to any shorebased seafood processor, regardless of product form actually produced. This term appears to be less commonly used in some of the other communities profiled.

The provisions of the Magnuson Act of 1976 gradually expelled the foreign fleets capitalizing on the groundfish fishery within the Gulf of Alaska EEZ, while American boats and processors entered the fishery. By the late 1970s a few Kodiak shore plants, according to one plant manager, started experimenting with groundfish resources "because there wasn't much crab to do." However, the majority of the groundfish caught prior to 1988 was processed aboard foreign vessels, first by wholly foreign operations, and then by joint ventures where American boats delivered to floating foreign processors. One interviewee described the late 1970s and 1980s as years of "forced" diversification:

> In that same time period [late 70s-early 80s] we started playing around with halibut and black cod, and very early playing around with other groundfish, and then in the mid-80s we got a lot more serious, and then in 1988 we built the new factory for surimi. It's pretty easy to see that we were kind of just forced into it. I mean, if you wanted to stay in the fish business you got into groundfish because that is all there was. And of course during that whole period, we continued to process salmon and herring and other products that were available to us.

Plant and dock expansions fostered their ability to further utilize groundfish resources. The first surimi production in Alaska took place in Kodiak in 1985 with the aid of an Alaska Fisheries Development Foundation Saltonstall-Kennedy grant. Also in the mid-1980s, "the State of Alaska came out with their tax credit program for getting into the groundfish, and so we fully utilized that," according to one plant operator, and his was not the only plant to do so. In 1987, a single plant processed about one-third of all the pollock that was taken out of the Gulf, but tax credits and other incentives contributed to additional effort and capitalization in the processing sector. This had limiting effects on large volumes being received by any one plant. The growth of the shore-based groundfish fishery in the Gulf of Alaska provided most Kodiak processors with products needed to keep their plants running nearly year-round. Large capital investments made the capacity to process groundfish resources greater than the total amount delivered, but a number of factors have converged to change operations significantly. Changing seasons have forestalled the opportunity to run plant operations year-round or at maximum capacity for extended periods of time, and competition for the "race for fish" stimulated overcapitalization in both the harvesting and processing sectors. Inshore/Offshore-1 management measures provided protection to Gulf of Alaska onshore processors and the harvesters who deliver to them from preemption by the offshore sector, but even with license limitation the Gulf of Alaska fishery is still characterized by overcapitalization. The derby-style fishing tactics and, in particular, the large volumes of pollock that can be caught in a short amount of time with contemporary equipment and technology can effectively "plug" the shore plants. If plants increase their capacity to handle these peak demands, they are essentially "capitalizing for inefficiency" as much of this capacity will be idle for most of the year. After the implementation of the AFA in the Bering Sea, some Kodiak processors also cite the "race for history" in Gulf of Alaska fisheries (and especially pollock) as an additional pressure towards inefficiency in local groundfish fisheries, in anticipation of eventual groundfish rationalization in some form in the Gulf of Alaska.

According to the City of Kodiak, Kodiak is home port to 770 commercial fishing vessels, making it the state's "largest fishing port" (NMFS 2002). The development or evolution of the Kodiak harvesting fleet has essentially paralleled that of the processors to which they deliver (along with the development of a fleet component that in part or in whole participates in BSAI fisheries). The details and dynamics are somewhat complex but have resulted in a fleet of multi-species, multi-gear boats (although trawlers may be somewhat more specialized, they can also switch gear or work as tenders). This versatility is especially important to harvesters as seasons have become more compressed and competition to harvest the resources has increased, although management restrictions such as license limitations or IFQs have increased the cost and perhaps reduced the possibility for such versatility. Kodiak fishermen greatly value having options and making their own decisions. Thus, both the potential benefits (generally increased stability of access and amount harvested

for those who can fish) and the potential costs (increased cost for entry into fisheries and reduced flexibility) of any proposed management alternatives are generally quite clear to them.

Kodiak's economy has become increasingly diversified. The local Coast Guard installation is the largest in the United States, and although it is relatively self-sufficient in some respects, it also contributes a great deal to the local economy in many ways. Housing has been relatively scarce since the 1980s and new house construction has been constant since that time, both to meet this demand as well as in response to increased population and more Coast Guard personnel living off-base. The housing market is currently softer than it has been in the collective memory of most Kodiak residents, due to the problems of the fishing industry. The service sector, and especially the retail sector, has continued to grow and has become increasingly important. Fishing support services have been affected by the downturn in the fishing industry. The local timber industry is at a relative low point currently but has been significant in the past. Education is an important economic and social component of the community, represented by the facilities of Kodiak College and The Fishery Industrial Technology Center. The aerospace industry has the potential, through a local rocket launch facility, to contribute to the economy both directly as well as more indirectly through support services and facilities provided to outside specialists who work at the launches.

Community Demographics

Kodiak, especially when the population of the greater Kodiak area is taken into account, is by far the largest of the Alaskan communities profiled. The overall community demographics are less directly influenced by persons engaged in the fishing economy than Unalaska, King Cove, or St. Paul, as the economy is much more diversified than in those communities.

Total Population

Table 2.9-1 provides information on Kodiak's total population by decade since 1880. The city of Kodiak did not attain the status of the largest community on the island until about 1920 or so and has grown steadily since then. The KIB was formed much later, and numbers for the borough are not available until 1960 when 7,174 people were enumerated. Named places within the KIB only totaled 3,320 people, however, and most were in the city of Kodiak. Based on present conditions, it can be assumed that most of the difference (whatever its "true" value) represented people living in the area of, but outside of the city limits of, Kodiak (Linda Freed, personal communication 2001[34]). This would account for a good deal of the sudden increase between 1950 and 1960 of the population of the "Greater City of Kodiak" (Table 2.9-1).

The 2000 "unincorporated population" is 4,037 and is generally believed to approximate the population that could be considered part of the "greater city of Kodiak" area but not within its incorporated city limits. This "unincorporated" population is thus equal to about 64 percent of the city's 2000 incorporated population of 6,334. This is a dramatic relative increase, from only 50 percent in 1999, and reflects a slight increase in the "unincorporated" population and a decrease in the city of Kodiak population. An additional 1,840 people live on the Coast Guard base, which most people also consider as part of the "greater city of Kodiak" area. Together these three populations include 12,211 of the KIB's total 2000 population of 13,913, or about 86 percent. Note that this does not include Chiniak or Women's Bay (about 5 percent of the KIB's population) as part of the "greater city of Kodiak," although it could be argued that they should be. This calculated percentage has varied from 84 to 90 percent since the formation of the KIB. Prior to that time (1880-1950), the city of Kodiak had been increasing in size relative to the other named places on Kodiak Island (Table 2.9-1).

[34]Freed, Linda, Director of Community Development, Kodiak Island Borough, AK 6/00

Table 2.9-1 Kodiak City and Area Population 1880-2000

Year	City of Kodiak	Greater City of Kodiak[1]	Total Hinterland[2]	Kodiak Island Borough
1880	0	0	694	NA
1890	495	495	1,334	NA
1900	341	341	623	NA
1910	438	438	655	NA
1920	374	374	343	NA
1930	442	442	444	NA
1940	864	864	589	NA
1950	1,710	1,710	567	NA
1960	2,628	6,482	692	7,174
1970	3,798	5,358	999	6,357
1980	4,756	8,842	1,097	9,939
1990	6,365	11,610	1,699	13,309
1999	6,893	12,185	1,804	13,989
2000	6,334	12,211	1,702	13,913

[1] "Greater City of Kodiak" encompasses the city of Kodiak, Kodiak Station, and the derived unincorporated population – see text

[2] "Total Hinterland" is the total population of all named places on Kodiak Island, other than the city of Kodiak and Kodiak Station

Source: DCED for named places; "Greater City of Kodiak" and "Total Hinterland" are derived values - see text.

A common dynamic in fish processing towns is that the population increases seasonally during peak harvest and processing periods. In Kodiak, this has historically occurred in summer (July and August). With the development of groundfish processing, Kodiak processors have increasingly tried to operate year-round with an increasingly resident labor force. The strong national economy has also decreased the number of people willing to come to Kodiak to work seasonally, and the cost of transporting and training such temporary employees has also increased. While such transient workers are still part of Kodiak, they had not been as significant as in the past, due to the development of a more resident processing workforce. Recent trends may be for the increased employment of more transient workers. These dynamics are discussed below in terms of the processing and harvesting labor force.

Ethnicity

Kodiak is a complex community in terms of the ethnic composition of its population. Sugpiaqs (Koniags) were the original inhabitants of Kodiak Island. In the late 1700s Russian contacts and their sea otter operations had devastating effects on the Native population and culture. Alutiiq is the present-day Native language. Alaska (and Kodiak) became a U.S. Territory in 1867, and a cannery opened on Karluk spit 15 years later. This marked the start of the development of commercial fishing on Kodiak Island, and Karluk remained the largest community on the island until about 1920. Commercial fishing and the military buildup associated with World War II brought many non-Natives to Kodiak, primarily Caucasians, but the population influx also included a substantial number persons of other minorities, most of whom were at least initially associated with fish processing employment.

Table 2.9-2 presents time series information on ethnicity for the city of Kodiak and Table 2.9-3 presents comparative information for the KIB. While the information is not all directly comparable due to changing definitions and different sources, certain conclusions are fairly clear. The population of the city of Kodiak is quite different from that of the borough as a whole, and a good portion of this difference is related to the economic development in the city in general and fisheries development in particular. For example, most Filipinos or Asian and Pacific Islanders live in or near the city of Kodiak. With initial in-migration of these groups associated with fish processing employment, they are the segment of the KIB population that is most rapidly increasing, from an unknown population in 1970 (but no more than 3 percent) to 6 percent in 1980 to 11 percent in 1990 to 17 percent in 2000. This is consistent with the common community perception, and plant manager reports, that fish processing workers are more of a resident workforce with intact family units than in the past. The Alaskan Native population has stayed at approximately the same percentage through time but is clearly a smaller percentage of the city of Kodiak population than it is of the KIB as a whole. The white or Euroamerican population has declined in terms of percentage over time. Overall, there has thus been a gradual, long-term shift in ethnic composition, with Asian and Pacific Islanders increasing in percentage and Euroamericans declining in percentage. Native Americans and African Americans have shown relatively little change. Census data also show that the "Hispanic Origin" portion of the population has also grown over time, and this is consistent with plant managers' observations about the changing composition of processing workforces, along with anecdotal information that the Hispanic population is increasing, and located primarily in the city of Kodiak (KIB website). This is the same pattern and dynamic described in the NPFMC community profiles developed for the Inshore/Offshore-1 amendment (IAI 1991).

Group housing in the community is largely associated with the processing workforce. As shown in Table 2.9-4, only 6 percent of the population lived in group housing in 1990, and this figure dropped to 2 percent in 2000. This is in sharp contrast to the percentages seen in the other large seafood processing communities of Unalaska and King Cove that were previously detailed. While comparable data for 2000 are not yet available, Table 2.9-5 provides information on group housing and ethnicity for Kodiak for 1990. As shown, the group quarters population did differ from the community population, with group quarters population having a higher minority population percentage (51 percent) than the population of the community as a whole (37 percent).

Table 2.9-2 Ethnic Composition of Population Kodiak City: 1970, 1980, 1990, and 2000

	1970		1980		1990		2000	
Race/Ethnicity	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
White	3,094	81.7%	3,337	71.2%	4,028	63.3%	2,939	46.4%
African American	44	1.2%	26	0.5%	47	0.7%	44	0.7%
Native Amer/Alaskan	479	12.6%	573	12.2%	629	9.9%	663	10.5%
Asian/Pacific Islands*	NA	-	554	11.8%	1,282	20.1%	2,069	32.6%
Other**	116	3.1%	-	-	379	5.9%	619	9.8%
Total	3,798	100%	4,686	100%	6,365	100%	6,334	100%
Hispanic***	NA	-	196	4.2%	403	6.3%	541	8.5%

Source: U.S. Bureau of Census.

* In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 59) and Asian (pop 2,010)

** In the 2000 census, this category was Some Other Race (pop 276) and Two or more races (pop 343).

***' Hispanic' is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).

Table 2.9-3 Ethnic Composition of Population Kodiak Island Borough: 1980, 1990, and 2000

Race/Ethnicity	1980		1990		2000	
	N	%	N	%	N	%
White	7,046	70.9%	9,289	69.8%	8,304	59.7%
African American	72	0.7%	135	1.0%	134	1%
Native American/Alaskan	1,710	17.2%	1,723	12.9%	2,028	14.6%
Asian/Pacific Islands*	624	6.3%	1,492	11.2%	2,342	16.8%
Other**	283	2.8%	670	5.0%	1,105	8%
Total	9,939	100%	13,309	100%	13,913	100%
Hispanic***	204	2.0%	669	5.0%	848	6.1%

Source: U.S. Bureau of Census.

* In the 2000 census, this was split into Native Hawaii and Other Pacific Islander (pop 110) and Asian (pop 2,232).

** In the 2000 census, this category was Some Other Race (pop 387) and Two or more races (pop 718).

*** Hispanic' is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).

Table 2.9-4 Group Quarters Housing Information, Kodiak, 1990 and 2000

Year	Total Population	Group Quarters Population		Non-Group Quarters Population	
		Number	Percent of Total Population	Number	Percent of Total Population
1990	6,365	356	5.59%	6,009	94.41%
2000	6,334	146	2.30%	6,188	97.97%

Source: U.S. Bureau of the Census 1990 STF2, Census 2000 Summary File 1

Table 2.9-5 Ethnicity and Group Quarters Housing Information, Kodiak, 1990

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	4,028	63.28%	192	53.93%	3,836	63.84%
Black	29	0.46%	3	0.84%	26	0.43%
American Indian, Eskimo, Aleut	811	12.74%	21	5.90%	790	13.15%
Asian or Pacific Islander	1,282	20.14%	118	33.15%	1,164	19.37%
Other race	197	3.10%	22	6.18%	175	2.91%
Total Population	6,365	100.00%	356	100.00%	6,009	100.00%
Hispanic origin, any race	407	6.39%	42	11.80%	365	6.07%
Total Minority Population	2,429	38.16%	181	50.84%	2,248	37.41%
Total Non-Minority Population (White Non-Hispanic)	3,936	61.84%	175	49.16%	3,761	62.59%

Source: U.S. Bureau of the Census 1990 STF2

Age and Sex

The city of Kodiak shows a greater proportion of males than females in its population and has been relatively stable in this regard for the period 1970-2000 (Table 2.9-6). The KIB as a whole shows an analogous imbalance over the 1980-2000 period (Table 2.9-7). This is characteristic of communities where at least one major economic sector disproportionately employs single members of one sex. The fishing industry has historically employed many single males, both as harvesters and processors. Although this population has apparently become more resident (rather than transient) than was the case in the past, evidently this has not greatly affected the overall population's male-to-female ratio. Single males still disproportionately migrate to Kodiak for at least some period of time, and females may tend to migrate out more than do males. The NPFMC community profile developed in the early 1990s (IAI 1991) indicates that the male/female ratio for the Native population was approximately equal, as would be expected from a resident population. The male-to-female ratio for Euroamericans was somewhat skewed (54/46), and for Filipinos was even more skewed. This was interpreted as evidence for a relatively resident Native population, with a predominately resident Euroamerican population somewhat more prone to movement in and out, and a much more mobile "other minority" population, which contained a smaller percentage of family units with children. This interpretation seems to continue to apply.

Table 2.9-6 Population by Age and Sex, Kodiak City: 1970, 1980, 1990, and 2000

	1970		1980		1990		2000	
	N	%	N	%	N	%	N	%
Male	2,055	54%	2,498	53%	3,496	55%	3379	53%
Female	1,743	46%	2,188	47%	2,869	45%	2955	47%
Total	3,798	100%	4,686	100%	6,363	100%	6334	100%
Median Age	NA		NA		NA		33.5 years	

Source: U.S. Bureau of the Census

Table 2.9-7 Population by Age and Sex, Kodiak Island Borough: 1990 and 2000

	1990		2000	
	N	%	N	%
Male	7,395	56%	7,362	53%
Female	5,914	44%	6,551	47%
Total	13,309	100%	13,913	100%
Median Age	NA		31.6 years	

Source: U.S. Bureau of the Census

Housing Types and Population Segments

Household type in Kodiak varies by population segment, although information is far from systematic in this regard. In the 1980s housing was in very short supply, and it was not unusual for complete strangers to be more than willing to share space in a marginal housing unit. Sales of houses and the rental of apartments were almost totally through word of mouth and almost instantaneous. This has changed to the point where houses are now on the market for a period of time more typical of other larger Alaskan communities before

selling, although apartment vacancy rates are still lower than are private housing vacancies. Average rent for apartments is higher or equal to rent in typical Alaskan urban communities, although the vacancy rate for units is higher than in places such as Anchorage, Juneau, and the Matanuska-Susitna Borough (AHFC 2001). Construction of new housing to meet the local demand has continued through the present, although it may have slowed somewhat in the recent past, and contractors are building few or no new houses on speculation. There are incentives that have encouraged the building of new housing outside of Kodiak city limits, however, such as the fact that the state will subsidize the mortgage rate one full percentage point for housing outside of the city of Kodiak. Further, undeveloped land within the current city limits is somewhat scarce.

Information from interviews would suggest that fish processors tend to live in smaller structures and/or with more household members, than do people with other employment. There are sections of town or developments where particular ethnic groups or persons with overall income levels associated with the seafood processing employment are concentrated, but there are also members of these same groups scattered throughout Kodiak.

One housing dynamic that had been operating until the recent past, noted earlier, has been that of the development of a more resident processing force. Kodiak processors had been able to close down bunkhouses as those attracted to Kodiak by fairly steady processing work preferred private housing in the community to company-owned group housing. With the more recent contraction of fishing seasons and a decrease in processor operating days, the processing labor force has once again become somewhat transient. Processors report that they can maintain only a smaller "core" group of employees than has been the case in the past, and several have reopened or even constructed bunkhouses of sufficient size to handle their transient peak labor needs. There are still local people who work in the processing plants on a less than full-time basis, but the pay scale associated with most processing work requires a relatively large number of hours to support a local resident than a number of other types of employment. Other than for peak processing periods, most labor is still local and has some sort of local housing arrangement. Systematic information is lacking, but anecdotally the same mechanism by which people are recruited to Kodiak to work in fish processing also allows them to find a place to live. Many such workers come because they have a relative or friend who is already working in Kodiak. This person then becomes a resource to locate housing. This is also one reason that household size and household structure tend to be different for different ethnic groups in Kodiak and are especially fluid for fish processor workers.

The Coast Guard base also affects the local housing supply in that it is "home" to close to 2,000 people. The base is reported to have been built in the 1930s as a temporary facility and so had a large supply of substandard housing. Much of this has since been dismantled, with a substantial but not equivalent amount of new and better housing being erected on-base. Most Coast Guard personnel have the option of living off-base if they prefer, so this has increased the local demand for housing.

Local Economy and Links to the Crab Fishery

Despite the relative diversification of Kodiak's economy, fishery-related employment is still a very large component of total local employment. Excluding the Coast Guard, 4 of the 5 top employers in Kodiak in 2000 were fish processors, and 3 more were listed in the top 20 employers (Table 2.9-8). It must also be noted, however, that Kodiak's economy is far more diversified than that of the other fishing communities profiled in this document, other than the greater Seattle area. The military (Coast Guard), education, service and retail, and government sectors are all very important for Kodiak. In this regard, interviews with some support providers who in the past have been primarily fisheries-oriented indicate that more recently Coast Guard, government, and education customers have become as significant (or more significant) in terms of the sale of outboard motors, boats, and similar marine-oriented items as fishermen themselves. As one such provider remarked, one-third of the Coast Guard base turns over every year, which equates to a constant

stream of new customers for him. Realtors have also noted that large homes are less likely to be purchased by fishermen than by "Coasties" or other Kodiak residents than in the past.

Table 2.9-8 Top 20 Kodiak Employers, 2000

Rank	Employer	Employment
1	Kodiak Island Borough School District	402
2	Ocean Beauty Seafoods	338
3	Trident Seafood Group	240
4	Polar Equipment (Cook Inlet Processing)	227
5	North Pacific Processors (APS)	198
6	Providence Kodiak Island Medical Center	177
7	City of Kodiak	173
8	Wal-Mart Associates	147
9	International Seafoods of Alaska	146
10	Safeway, Inc.	142
11	Global Seafoods	136
12	Western Alaska Fisheries	108
13	Kodiak Area Native Association	108
14	Space Mark International	108
15	U.S. Department of Transportation	99
16	Alaska Department of Fish and Game	77
17	Ki Enterprises (McDonald's)	66
18	University of Alaska	54
19	Kodiak Island Housing Authority	51
20	Kodiak Electric Association	51

Source: Kodiak Chamber of Commerce, October, 2001 (excludes military).

Table 2.9-9 displays the total volume of fish landed at Kodiak for 1984 through 2000. Kodiak has consistently ranked in the top three U.S. ports in terms of value of fish landings and in the top seven in terms of volume of landings. As shown, there is considerable variability in absolute figures from year to year as, for example, the value of landings in Kodiak declined by approximately one-fourth between 1999 and 2001. Additional information in the form of a detailed overview of the fishing industry in Kodiak is available in a recent analysis of the economic impacts from fishing restrictions on the KIB economy, prepared by the McDowell Group (2002). The McDowell report lists a number of reasons behind the recent overall decline in the value of Kodiak's fisheries, including quota not harvested from areas traditionally fished by Kodiak vessels, due to Steller sea lion protection closure areas, as well as a decline in salmon prices, among others. The report also notes steep processing declines of pollock since 1998 and cod since 1999, as well as a drop in halibut landings due to increases in landings in Home and Seward. These changes have been accompanied by declines in harvester income, processing employment and payments to labor, processor closures, and a shift toward more marked seasonal fluctuations in processing.

Table 2.9-9 Volume and Value of Fish Landed at Kodiak, 1984-2001

Year	Volume (millions of lbs)	U.S. Ranking for Volume	Value (millions of $)	U.S. Ranking for Value
1984	69.9	7	113.6	2
1985	65.8	6	96.1	3
1986	141.2	7	89.8	3
1987	204.1	3	132.1	2
1988	304.6	3	166.3	1
1989	213.2	6	100.2	3
1990	272.5	3	101.7	3
1991	287.3	4	96.9	3
1992	274.0	3	90.0	3
1993	374.2	2	81.5	3
1994	307.7	2	107.6	2
1995	362.4	2	105.4	2
1996	202.7	5	82.3	3
1997	267.5	6	88.6	3
1998	357.6	5	78.7	3
1999	331.6	6	100.8	3
2000	289.6	6	94.7	3
2001	285.5	6	74.4	3

Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics and Economics Division, Silver Spring, MD (accessed through NMFS Website).

Table 2.9-10 lists detailed information on total volume and value of fish landings for Kodiak for 2000 by species or species group. As shown, crab plays a relatively minor role in local landings. Bristol Bay red king crab and Bering Sea snow crab combined represent less than 1 percent of total volume processed and slightly more than 3 percent of total value. Dungeness crab accounts for another one-tenth of 1 percent of total volume and about four-tenths of 1 percent of total value. Clearly, the value of landings in Kodiak are dominated by Pacific cod, halibut, and salmon, which together account for 72.5 percent of the total value of all species landed. These three species account for between 23 and 25 percent of total value each, while no other species accounts for more than about 9 percent of the total. Pollock and sablefish, the next two most important species after Pacific cod, halibut, and salmon, account for 9 percent and 7 percent of the overall total, respectively. No other species accounts for more than about 2 percent of the total. Pollock, by far, accounts for the greatest volume of fish landed, with Pacific cod and salmon being quite close to each other as the second and third highest volume species (or species complex), respectively. As shown, several other groundfish species are relatively high-volume species locally, but account for a relatively small proportion of the total value landed, due to relatively low values per pound.

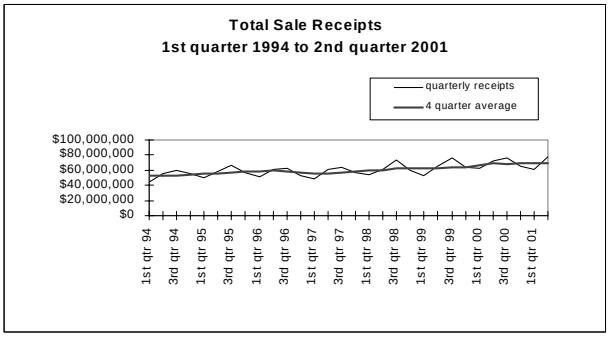
Table 2.9-10 Volume and Value of Fish Landed at the Port of Kodiak, by Species, 2000

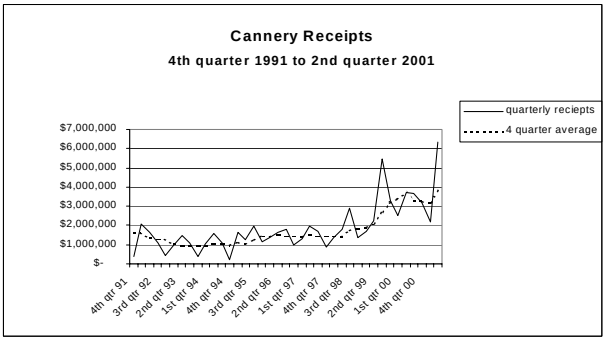
Species	Volume Landed (Pounds)	% of Total Volume	Ex-vessel Value (dollars)	% of Total Value
Pacific Cod	64,936,708	22.4%	$24,030,302	25.37%
Halibut	9,258,799	3.2%	$23,146,998	24.44%
Salmon	61,800,000	21.3%	$21,500,000	22.70%
Pollock	102,229,713	35.3%	$8,720,096	9.21%
Sablefish	3,377,355	1.2%	$6,957,351	7.35%
Rock Sole	10,191,805	3.5%	$2,061,818	2.18%
Bristol Bay Red King Crab	900,536	0.3%	$1,707,901	1.80%
Weathervane Scallops	280,568	0.1%	$1,662,575	1.76%
Bering Sea Snow Crab	1,451,842	0.5%	$1,277,621	1.35%
Pacific Ocean Perch	9,008,682	3.1%	$729,051	0.77%
Herring	2,740,000	0.9%	$685,400	0.72%
Rockfish	9,229,389	3.2%	$611,210	0.64%
Dungeness Crab	236,921	0.1%	$390,920	0.41%
Flatfish	1,847,248	0.7%	$252,530	0.27%
Flathead Sole	1,676,648	0.6%	$234,642	0.25%
Sea Cucumbers	116,152	0.0%	$174,228	0.18%
Rex and Dover Sole	1,167,310	0.4%	$132,387	0.14%
Black Rockfish	251,520	0.1%	$108,373	0.11%
Octopus	181,993	0.1%	$90,997	0.10%
Miscellaneous/other/unspecified (inc. shrimp and sea urchins)*	8,716,811*	3.6%*	$225,600*	2.01%
Total	289,600,000	100%	$94,700,000	100%

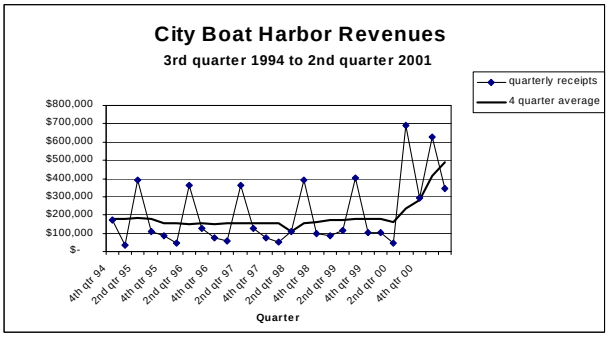
*Note: Figures in this row provided to make totals for known and unspecified species sum to reported port totals and are adjusted to account for rounding errors and species that are not reported individually due to confidentiality restrictions. Values should be taken as approximations and should not be used for comparative purposes.
Source: Adapted from Kodiak Chamber of Commerce, October, 2001.

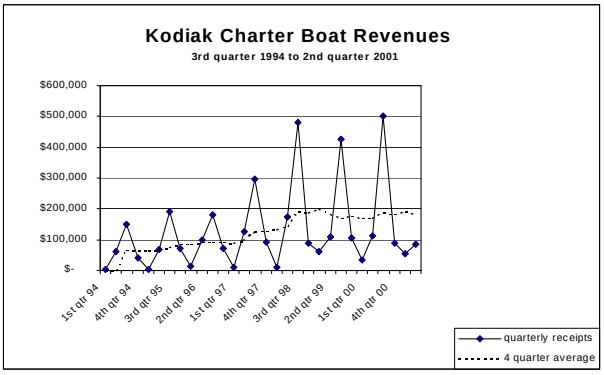
Like the other communities profiled, the portion of Kodiak's economy tied to the fisheries shows distinct variation by season. The more-or-less regular or cyclical annual variation endemic to the Kodiak's fishing economy also spills over into other local economic sectors. The Kodiak Chamber of Commerce has provided city sales tax receipt information in spreadsheet format for the first quarter of 1994 through the second quarter of 2001 (Figure 2.9-1). Graphs of tax receipts over this period, by quarter, are presented for total sales receipts and selected economic sectors. The comparison of these graphs is the basis for the following brief discussion.

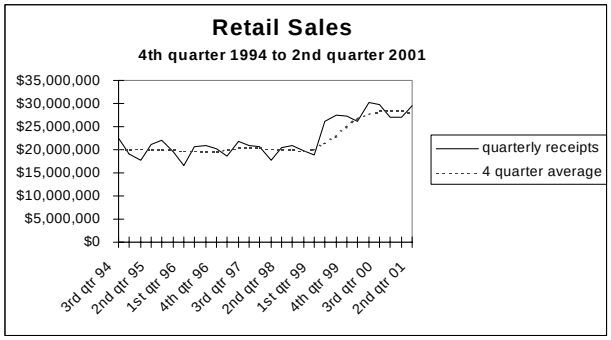
Figure 2.9-1. Kodiak Seasonal Economic Fluctuations

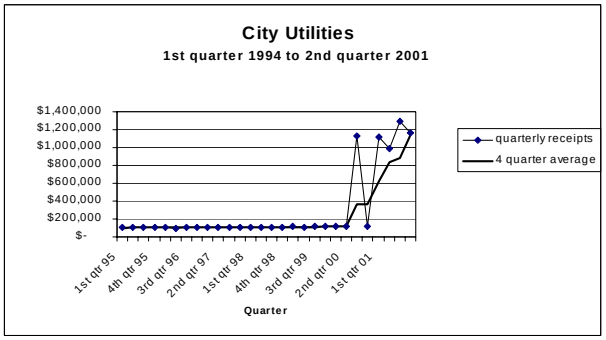


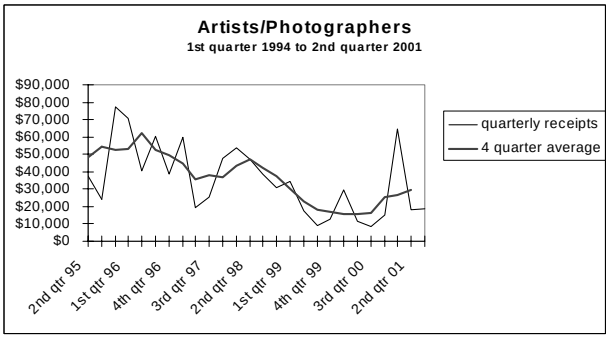












Total sales tax receipts vary in a cyclic pattern, typically within a relatively well-defined range (the high point is generally no more than 1.5 times the low point, although that range seems to be increasing through time). Cannery receipts can be seen to vary in the same way as do total sales receipts, but the fluctuation between high and low points is much more extreme (the high point is over 2 times the low point). City boat harbor revenues are even more extreme, but this is an artificial variation, as most long-term moorage fees and such are billed and paid on an annual basis. On the other hand, charter boat revenues are perhaps the most extreme case of true seasonal variation in economic activity, from zero in the winter to a peak in the summer. As this industry also depends on fish (primarily salmon and halibut), it has some of the same seasonal variation pattern as does the commercial processing sector, but it also is influenced by tourism cycles. Retail sales, on the other hand, while showing some seasonal variation in response to the variation in many of primary economic sectors, exhibits a much narrower range of variation than does total sale receipts. This makes sense intuitively, as a certain level of sales has to be maintained year-round to support the resident population. Sales would increase during peaks of economic activity, in proportion to the size of the peak in relation to the "base" level of sales. The city utilities graph is especially telling in this regard. The variation is less cyclical but does exhibit some seasonality confounded by an overall trend towards increased revenues (increased use of utilities). This is an indicator that Kodiak has been experiencing consistent growth, in population, housing supply, and general infrastructure. The last graph can be no more than suggestive, but the decline in revenues for artists and photographers may suggest that there is less discretionary income in the community, or that such expenditures for luxury or specialty items are increasingly being spent outside of the region.

The following discussion of the fishing industry is divided into the harvesting and processing sectors, as each is extremely important for the Kodiak economy and community. A third section provides some general contextual information on fishery industry support services.

Harvesting

While most of the Kodiak catcher vessel fleet is Gulf of Alaska oriented, Kodiak is, by far, the largest BSAI crab vessel home port in Alaska. At a minimum, the Kodiak crab fleet can be divided into those who deliver to Kodiak shore processors, and those who deliver to Bering Sea processors (shoreplants and floaters). Some "Bering Sea boats" do deliver some crab to Kodiak processors, generally on the last trip of a season or for one-trip fisheries. Bering Sea boats are generally larger than those that fish only the Gulf of Alaska. Currently, relatively little Bering Sea crab harvested by Kodiak boats is delivered to, and processed at, Kodiak shoreplants. It should be noted that there was a significant increase in such deliveries in 2000, compared to the previous 6 years, both in absolute and percentage terms. This is discussed briefly below in the "Processing" section, in qualitative terms.

As shown in Table 2.9-11, over the past decade, Kodiak has been home to 38.6 vessels on an annual average basis that participated in at least one of the nine BSAI crab fisheries covered by the proposed management alternatives. As discussed in Section 3.4.4 of the main body of this document, the Alaska community with the next highest number of vessels has an annual average of 8.3. Also as discussed in that section, vessels owned by Seattle-Tacoma area residents dominate the harvest in the BSAI crab fisheries as a whole, but Kodiak dominates all other Alaska communities. Table 2.9-11 also shows the diversity within the local BSAI crab fleet, in terms of dependence on BSAI crab versus other fisheries in which these vessels are engaged, as well as between the various individual crab species. In terms of harvest levels, Kodiak vessels over the past 10 years accounted for approximately 53.5 percent of the Bristol Bay red king crab harvest taken by all Alaska-owned vessels, 51.0 percent of the opilio harvest taken by all Alaska-owned vessels, and 54.6 percent of the tanner harvest taken by all Alaska-owned vessels.

For the Kodiak Bering Sea crab fleet, opilio crab has clearly been the most significant single BSAI crab species being proposed for rationalization during this time period, accounting for 47 percent of the value of their harvest, on average. Other relevant BSAI crab species are quite significant, however, as all species together account for 80 percent of the value of the total harvest of Kodiak vessels that harvested any BSAI crab proposed for rationalization in this period. Thus, Kodiak Bering Sea vessels that engage in the BSAI crab fisheries are primarily dependent on crab in general, and the species proposed for rationalization in particular, in relation to all of the fisheries in which they may participate.

Table 2.9-11 Annual Average Number of Crab Vessels Owned by Kodiak Residents Participating in Relevant BSAI Crab Species Fisheries and Associated Harvest, 1991-2000.

Fishery Category	Annual Average Number of Vessels	Value	
		Annual Average Value of Harvest	Percent of Kodiak Crab Fleet Total
Bristol Bay Red King Crab	44.3	$5,240,622	12.2%
Bering Sea Opilio Crab	37.8	$20,081,371	46.7%
Bering Sea Tanner Crab	43.7	$3,593,507	8.4%
BBR/BSO/BST group	45.8	$28,915,500	67.2%
Other 6 PMA Crab group	25.9	$5,390,614	12.5%
All 9 PMA Crab group	48.1	$34,306,113	79.7%
"Overlap" Vessels, all 9 PMA Crab	1.8	*	0
All Fisheries other than PMA Crab	34.4	$8,711,223	20.3%
Total	N/A	$43,017,337	100%

Notes: BSAI crab fishery and group vessel counts are not additive, as some vessels fish several fisheries.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted).
"Overlap" vessels have both qualified and non-qualified BSAI crab landings.
* value suppressed due to confidentiality restrictions

Table 2.9-12 provides information on all Kodiak-owned vessels (not just BSAI crab vessels as was the case in Table 2.9-11). This table provides information on the relative dependency of the community fleet as a whole on BSAI crab. As shown, over this decade span, the BSAI crab fisheries being considered for rationalization accounted for 35.5 percent of the value of the total local fleet harvest on an average annual basis. The relative productivity of these vessels may be seen in the fact that these vessels account for only 11.5 percent of the average annual vessel count of the total local fleet.

Table 2.9-12 Annual Average Number of Vessels Owned by Kodiak Residents Participating in All Fisheries and Associated Value and Volume of Harvest, 1991-2000.

Fishery	Annual Average Number of Vessels	Average Annual Value of Harvest		Average Annual Volume of Harvest	
		Dollars	Percent of Community Fleet Total	Pounds	Percent of Community Fleet Total
PMA Crab	48.1	$34,306,113	35.5%	30,146,663	13.1%
non-PMA Crab	55.8	$1,879,682	1.9%	1,097,065	0.5%
Pollock	53.0	$6,005,876	6.2%	68,321,595	29.6%
Pacific Cod	161.9	$10,308,203	10.7%	45,586,871	19.8%
Other Groundfish	134.8	$7,144,549	7.4%	19,240,712	8.3%
Other Fisheries	263.9	$17,398,694	18.0%	19,511,615	8.5%
Salmon	209.5	$15,815,247	16.4%	40,266,848	17.5%
"Non-Vessel" Fisheries	NA	$3,779,779	3.9%	6,536,465	2.8%
Total Community Count, Value, or Volume	417.3	$96,638,141	100%	230,707,832	100.0%

Notes: Offshore harvest (and value) not included, which affects mainly groundfish.
Database as provided combines all relevant BSAI crab fisheries.
"Non-Vessel" fisheries represent those harvest data that do not have an associate vessel number. These data primarily represent salmon harvests (e.g., beach set net fisheries).
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

For the harvest of Gulf of Alaska fishery resources, the enumeration and geographic distribution of the Kodiak catcher vessel sector is detailed in previous documents and abstracted for this document. The most important point in regard to the Kodiak component of this fleet is that most are multi-gear and multi-species boats. The majority of boats harvesting groundfish and crab for deliveries to Kodiak shore processors are Kodiak-based boats harvesting Gulf of Alaska resources. Non-local boats from Newport or Seattle augment the trawl and longline fleets. One recent development, with the shift of Gulf of Alaska pollock quota from areas 610 and 620 to the Shelikof Area, has been the at least temporary transfer of some boats from the Trident plant in Sand Point to the Trident plant in Kodiak.

Vessels in this fleet usually have a handshake agreement with a shore processor for the delivery of fish. The vessel is said to "work for" the shore plant and sometimes the plant operators refer to "their boats" meaning those with which working relationships exist. These vessels deliver to that plant on a regular basis. The size and composition of processor fleets vary, depending on the plant's capacity and product mix. Most of the boats that deliver to Kodiak processors are multi-purpose vessels that can change fisheries to meet the current market and fishing circumstances. For example, some vessels will switch between crab, halibut, and cod or crab, halibut, and pollock. One vessel reported that he fished for in excess of 20 species with three different types of gear. The size of a processor's fleet depends on what season it is and what they are targeting at the time. It is not uncommon, however, for a plant to have a fleet of 8 to 16 boats fishing groundfish and crab. Among plants that run pollock, there is a bimodal distribution of trawl fishing power. The larger plants typically have 8 to 10 trawlers working with them, whereas the smaller plants typically have 4 or fewer trawlers in their pollock fleet. Most plants also have 6 to 10 fixed gear vessels in their fleet. Most of the fixed gear boats are pot boats fishing for Pacific cod and/or tanner crab. There is a small fleet that fishes for dungeness crab as well.

Fleet sizes are smaller now than they were when local shellfish was a larger part of production. Interview data suggest that prior to the implementation of the AFA in the Bering Sea, the Gulf of Alaska pollock (and flatfish) fleet tended to cooperate in an effort to balance deliveries to maintain high levels of production. This was a somewhat unique relationship to develop in an open access fishery, but it was a form of industry-developed "rationalization" to counter some of the inherent inefficiencies of a high volume/low value fishery with excess capacity. Ideally, the plants want just the right amount of boats to keep production lines busy all of the time, but with a trawl fleet's capacity to catch groundfish, its harvest can easily exceed its processor's capacity. After the implementation of the AFA in the Bering Sea, Kodiak processors have reported that this arrangement is, in essence, no longer in effect. With the anticipation of eventual pollock (and other groundfish) rationalization in the Gulf of Alaska, a "race for history" in the Gulf has resulted, with at least one new processing entrant and a host of wasteful and inefficient practices (see processing discussion below).

A strategy of flexibility and adaptability in the fishing industry has caused boats to become very good at converting from one gear type to another, if they have the gear available. In the mid-1980s this did not happen frequently, but it is easier and more common now (subject to license limitation and other management measures). While boats may switch from one gear type to another, operators usually deliver to the same processor. If a new operator comes aboard, the vessel may or may not change delivery sites, depending on the established relationships of the vessel owner/operator to processor.

Conversions also take place within the trawl fleet. For example, there is a switch in nets for midwater or pelagic trawling to bottom trawling when going from pollock to cod, and according to field interviews, almost all local trawlers have both types of nets. Medium-sized and small trawlers (usually those less than 70 feet in length) will make a conversion as soon as tanner season is closed, but the bigger Kodiak trawlers, those in the 80- to 120-foot range, will usually leave their trawl gear on and not make any conversions, unless they are going tendering for salmon or herring. There have been a number of recent changes in conversion patterns, however, and this has resulted in changes in flexibility as the nature of the some of the fisheries has changed. For example, in the not-too-distant past, vessels could trawl the better part of the year, so a number of them sold their pots and abandoned the fixed gear fishery. Also, according to local sources, the Kodiak area tanner quota has been so small in recent years that the bigger boats "can't justify going out," effectively limiting their flexibility.

The delivery of BSAI crab by Kodiak (or other) boats to Kodiak processors is discussed in the next section, but Kodiak harvesters did comment on other aspects of the proposed rationalization alternatives that could affect their operations. Foremost in their thoughts was the potential loss of bargaining power harvesters could face in view of a "closed-class" of processors. Harvesters claim that under the AFA crab sideboards imposed on processors, harvesters have faced limited markets and been forced to be price-takers and thus received less value for their crab than they would otherwise have expected. The belief is that processors may acquire even more leverage in the price-bargaining relationship under the three-pie rationalization alternative. In short, many harvesters believe that they have already been adversely affected in this way by the crab sideboards imposed on AFA-qualified processors by the AFA. Once the capped processors reach their limits, there are very few alternative markets to which a harvester can sell. To some degree, there is a split between those harvesters who own (and generally operate) a single vessel and those who own two or more. Some in the former position characterize themselves and others like them as simply trying to earn a living, and keeping the option for others to do the same open, while multi-vessel owners are more interested in asset appreciation and an economically viable exit strategy from the fishery (i.e., "selling out"). The perception of fishing as a way of life and lifestyle is one component of this process. "Owner-on-board" provisions have been championed by some as a way to retain "fishing community values" but would clearly disadvantage the owners of multiple vessels. At the same time, most fisheries participants would agree that entry into the fisheries (and the corollary, orderly exit from the fisheries, as well) is problematic – although there is little

agreement on whether the rationalization alternatives would help alleviate the entry problem. It is generally agreed that rationalization in general would facilitate the ability of those who want to retire from the fishery to do so while obtaining an advantageous price for their fishery assets.

Processing

Table 2.9-13 summarizes information on the processing of relevant BSAI crab species in Kodiak for 1991-2000. Tanner crab may not be the single most important species of BSAI crab for Kodiak vessels but is the only one for which individual species information can be displayed due to confidentiality restrictions. For all nine BSAI crab species combined, Kodiak processed 1.2 to 1.7 percent of the total harvest for 1991-1996. This declined to significantly lower levels in 1997 and 1998, returned to the previous level in 1999, and greatly increased in 2000. The decline in 1997 coincided with the closure of the Bering Sea tanner crab season (which remains closed) and with a change in the rules on pot storage after the end of a fishing season. After 1996, all pots had to be removed from the fishing grounds within 7 days of the end of the season. Many Kodiak Bering Sea crab boats report that they are not large enough to carry both a load of crab and all their pots, so that this change in regulation severely limited their ability to deliver crab to Kodiak, especially during high GHL years. Such boats were limited even on the last (or only) delivery trip of the season. For their last trip, such boats were essentially forced to deliver to a Bering Sea processor, return to the grounds and pick up their pots, and then go to Kodiak. Some harvesters also reported that processors required them to deliver all crab to them, by linking such deliveries to markets for other fish. Still, by 1999 the Kodiak processors and fleet had evidently adapted to the extent that Kodiak deliveries and processing were at the same levels as the early 1990s. The sharp increase in 2000 may be due to a number of factors. One would be the great decline in the GHL and harvest, so that many vessels had only one delivery trip, often of a partial load, that allowed them to carry their empty pots as well. Kodiak processors may also have offered price incentives, for various reasons. In any event, Kodiak processors and harvesters both note that there has been a historical pattern for Kodiak boats to deliver Bering sea crab back to Kodiak, and cite the qualifying years of 1995-1999 as "the worst possible set of years" for Kodiak in this regard.

Tables 2.9-14 through 2.9-17 present information on the volume and value of the species processed in Kodiak by year for the period 1991-2000. The percentage tables display the percentage that each fishery processing category represented for the annual processing total for Kodiak (a form of community processing dependency). The percentage each such category represented of the total annual processing for that fishery as a whole (community share of the total fishery processing activity) can be derived from tables presented in the supporting data tables attachment (SIA Attachment 3). Community processing "share" information cannot be discussed for communities other than Kodiak, due to the nature of the data. For Kodiak, with the exception of salmon, which is processed at several different locations within the KIB, nearly all of this activity takes place within the city of Kodiak at shore-based facilities. As shown in Tables 2.9-14 and 2.9-15, there is a considerable amount of variation in the absolute and relative volume of individual species processed over this time period. Most Gulf of Alaska crab fisheries remain closed, which accounts for the declining trend in crab species other than those proposed for rationalization. The pattern for BSAI crab is more complex, as described in the previous paragraph.

Tables 2.9-16 and 2.9-17 present the same type of information as in the previous two tables, but in terms of value by species for these same years rather than by volume. The patterns are similar to those of the volume tables but highlight the differences between high volume/low price and low volume/high price species. This is especially evident for crab. In the early 1990s, even though total deliveries and pounds processed were relatively small, BSAI crab species and other crab species each accounted for 5 or more percent of the value of all community processing. For non-BSAI FMP (mainly Gulf of Alaska) crab, this percentage has steadily declined due to declining Gulf of Alaska crab fisheries (most of which are now closed). For the relevant

BSAI crab species, the percentage declined through 1998 but, as discussed above, increased in 1999, and increased more sharply still in 2000. Table 2.9-17 indicates that the relevant BSAI crab species represented 9 percent of the total value of seafood processing in Kodiak in 2000. This is a known overestimate, as the 2000 data do not include halibut, which accounted for about 18 percent of the total Kodiak processed value in 1999. Thus, a more reasonable value for the relevant BSAI crab species in relation to the total Kodiak processing value in 2000 would be about 7.4 percent (.09 times .82). While the tables portray a relatively diversified fishery, in most years the dominance of salmon and groundfish is apparent, as is the relative importance of halibut in comparison to crab.

Table 2.9-13 Value of BSAI Tanner Crab and Total Relevant BSAI Crab Species Processing for Kodiak and the Total of All Regions, 1991-2000

	Kodiak			All Regions			Kodiak as a % of All	
Year	Tanner	All 9 PMA	Tanner as % of All PMA	Tanner	All 9 PMA	Tanner as % of All PMA	Tanner	All 9 PMA
1991	$1,780,978	$4,588,766	38.8%	$56,192,838	$305,695,929	18.4%	3.2%	1.5%
1992	$2,479,565	$4,408,095	56.3%	$59,162,105	$289,853,730	20.4%	4.2%	1.5%
1993	$2,671,346	$4,677,209	57.1%	$41,988,229	$304,538,220	13.8%	6.4%	1.5%
1994	$2,481,138	$3,422,245	72.5%	$35,366,058	$283,488,574	12.5%	7.0%	1.2%
1995	$1,652,665	$3,153,968	52.4%	$11,923,660	$221,109,681	5.4%	13.9%	1.4%
1996	$640,894	$2,586,529	24.8%	$4,595,405	$154,074,142	3.0%	13.9%	1.7%
1997	$0	$1,389,062	0.0%	$0	$147,820,510	0.0%	0.0%	0.9%
1998	$0	$1,036,384	0.0%	$0	$191,024,760	0.0%	0.0%	0.5%
1999	$0	$3,553,491	0.0%	$0	$264,003,323	0.0%	0.0%	1.3%
2000	$0	$6,604,638	0.0%	$0	$111,690,223	0.0%	0.0%	5.9%
1991-2000	$11,706,585	$35,420,388	33.1%	$209,228,294	$2,273,299,091	9.2%	5.6%	1.6%
1995-1999	$2,293,559	$11,719,435	19.6%	$16,519,064	$978,032,416	1.7%	13.9%	1.2%

Notes: Only "Tanner" and "All 9 PMA" numbers are non-confidential for Kodiak processors.
Tanner is not necessarily the "most important" BSAI crab species for Kodiak processors.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table 2.9-14 Volume of Fish Processed by Kodiak Processors, by Fishery Category and Year, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
PMA Crab	3,423,933	2,235,315	2,382,257	835,923	1,216,637	884,002	507,625	688,129	738,704	2,250,267	15,162,792
Non-PMA Crab	3,337,429	4,005,579	2,729,550	2,027,264	616,125	791,084	657,078	459,963	549,296	254,400	15,427,768
Salmon	65,513,180	37,442,748	105,954,109	42,512,087	150,212,021	38,480,944	47,096,755	85,197,066	63,135,227	60,137,591	695,681,728
Halibut	11,175,975	12,407,385	9,886,361	8,959,621	7,345,008	7,396,190	10,673,472	8,429,823	8,293,055	see note	84,610,079
Sablefish	7,823,907	6,770,493	6,869,437	6,157,425	3,664,241	4,739,317	3,798,064	3,572,350	3,085,327	3,251,821	49,732,382
Pollock	95,709,636	128,392,182	155,353,624	163,440,241	65,393,556	45,996,042	83,777,225	164,935,760	129,788,161	106,386,467	1,139,172,894
Pacific Cod	62,211,905	51,844,171	48,156,199	37,220,362	69,992,708	51,710,124	72,633,509	71,460,162	83,670,937	64,051,179	612,951,256
Other Groundfish	16,426,409	20,983,205	20,878,900	13,955,709	18,685,450	34,459,702	36,860,158	30,833,747	26,063,592	47,225,737	266,372,609
Other Fisheries	8,229,555	7,592,926	9,046,307	6,235,468	5,203,241	6,146,351	5,763,016	2,946,939	2,473,634	2,303,039	55,940,476
Non-Commercial	846,854	1,910,625	92,767	7,300,946	631,058	2,629,333	926,659	601,108	3,197,287	7,031,956	25,168,593
Total	274,698,783	273,584,629	361,349,511	288,645,046	322,960,045	193,233,089	262,693,561	369,125,047	320,995,220	292,935,646	2,960,220,577

Notes: Halibut numbers are not available for 2000.
Most numbers are likely to be underestimates, and should be used as indicators rather than exact measures. See text.
Table includes ALL processors in the named community, whether they processed relevant BSAI crab species or not.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table 2.9-15 Percentage of Total Volume of Fish Processed by Kodiak Processors, by Fishery Category and Year, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
PMA Crab	1.2%	0.8%	0.7%	0.3%	0.4%	0.5%	0.2%	0.2%	0.2%	0.8%	0.5%
Non-PMA Crab	1.2%	1.5%	0.8%	0.7%	0.2%	0.4%	0.3%	0.1%	0.2%	0.1%	0.5%
Salmon	23.8%	13.7%	29.3%	14.7%	46.5%	19.9%	17.9%	23.1%	19.7%	20.5%	23.5%
Halibut	4.1%	4.5%	2.7%	3.1%	2.3%	3.8%	4.1%	2.3%	2.6%	see note	2.9%
Sablefish	2.8%	2.5%	1.9%	2.1%	1.1%	2.5%	1.4%	1.0%	1.0%	1.1%	1.7%
Pollock	34.8%	46.9%	43.0%	56.6%	20.2%	23.8%	31.9%	44.7%	40.4%	36.3%	38.5%
Pacific Cod	22.6%	18.9%	13.3%	12.9%	21.7%	26.8%	27.6%	19.4%	26.1%	21.9%	20.7%
Other Groundfish	6.0%	7.7%	5.8%	4.8%	5.8%	17.8%	14.0%	8.4%	8.1%	16.1%	9.0%
Other Fisheries	3.0%	2.8%	2.5%	2.2%	1.6%	3.2%	2.2%	0.8%	0.8%	0.8%	1.9%
Non-Commercial	0.3%	0.7%	0.0%	2.5%	0.2%	1.4%	0.4%	0.2%	1.0%	2.4%	0.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Halibut numbers are not available for 2000.
Most numbers are likely to be underestimates, and should be used as indicators rather than exact measures. See text.
Table includes ALL processors in the named community, whether they processed relevant BSAI crab species or not.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table 2.9-16 Value of Fish Processed by Kodiak Processors, by Fishery Category and Year, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
PMA Crab	$4,588,767	$4,408,095	$4,677,212	$3,422,244	$3,153,972	$2,586,526	$1,389,062	$1,036,385	$3,553,489	$6,604,643	$35,420,395
Non-PMA Crab	$5,154,820	$6,892,022	$4,163,021	$3,727,014	$970,593	$876,894	$1,386,903	$668,133	$860,535	$421,403	$25,121,338
Salmon	$28,490,759	$33,891,223	$30,919,937	$19,837,476	$41,353,791	$21,319,667	$16,552,661	$26,327,348	$28,587,045	$18,477,815	$265,757,722
Halibut	$22,182,856	$11,319,145	$11,705,472	$16,874,425	$14,228,126	$16,144,982	$22,115,588	$10,254,626	$17,374,280	see note	$142,200,425
Sablefish	$7,421,681	$7,828,995	$6,781,326	$8,679,003	$7,233,079	$9,316,328	$8,305,717	$5,282,670	$5,521,587	$6,550,433	$72,920,819
Pollock	$8,327,265	$14,772,329	$11,501,119	$12,570,228	$6,574,980	$4,369,377	$8,625,740	$11,190,433	$12,311,467	$11,798,065	$102,041,003
Pacific Cod	$15,597,588	$11,423,941	$8,626,740	$6,328,672	$14,786,604	$10,450,046	$15,838,914	$13,186,623	$24,651,247	$22,687,612	$143,577,987
Other Groundfish	$2,095,784	$3,094,779	$3,013,060	$1,971,551	$2,855,387	$4,942,174	$4,716,379	$3,193,349	$2,383,764	$4,603,873	$32,870,100
Other Fisheries	$3,309,612	$2,072,771	$2,703,123	$2,034,232	$2,972,409	$4,880,542	$1,262,864	$829,988	$827,202	$788,980	$21,681,723
Non-Commercial	$210,141	$427,741	$158,208	$1,484,242	$399,986	$544,197	$182,897	$697,593	$876,674	$1,360,770	$6,342,449
Total	$97,379,273	$96,131,041	$84,249,218	$76,929,087	$94,528,927	$75,430,733	$80,376,725	$72,667,148	$96,947,290	$73,294,519	$847,933,961

Notes: Halibut numbers are not available for 2000.
Most numbers are likely to be underestimates, and should be used as indicators rather than exact measures. See text.
Table includes ALL processors in the named community, whether they processed relevant BSAI crab species or not.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table 2.9-17 Percentage of Total Value of Fish Processed by Kodiak Processors, by Fishery Category and Year, 1991-2000

Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
PMA Crab	4.7%	4.6%	5.6%	4.4%	3.3%	3.4%	1.7%	1.4%	3.7%	9.0%	4.2%
Non-PMA Crab	5.3%	7.2%	4.9%	4.8%	1.0%	1.2%	1.7%	0.9%	0.9%	0.6%	3.0%
Salmon	29.3%	35.3%	36.7%	25.8%	43.7%	28.3%	20.6%	36.2%	29.5%	25.2%	31.3%
Halibut	22.8%	11.8%	13.9%	21.9%	15.1%	21.4%	27.5%	14.1%	17.9%	see note	16.8%
Sablefish	7.6%	8.1%	8.0%	11.3%	7.7%	12.4%	10.3%	7.3%	5.7%	8.9%	8.6%
Pollock	8.6%	15.4%	13.7%	16.3%	7.0%	5.8%	10.7%	15.4%	12.7%	16.1%	12.0%
Pacific Cod	16.0%	11.9%	10.2%	8.2%	15.6%	13.9%	19.7%	18.1%	25.4%	31.0%	16.9%
Other Groundfish	2.2%	3.2%	3.6%	2.6%	3.0%	6.6%	5.9%	4.4%	2.5%	6.3%	3.9%
Other Fisheries	3.4%	2.2%	3.2%	2.6%	3.1%	6.5%	1.6%	1.1%	0.9%	1.1%	2.6%
Non-Commercial	0.2%	0.4%	0.2%	1.9%	0.4%	0.7%	0.2%	1.0%	0.9%	1.9%	0.7%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Halibut numbers are not available for 2000.
Most numbers are likely to be underestimates, and should be used as indicators rather than exact measures. See text.
Table includes ALL processors in the named community, whether they processed relevant BSAI crab species or not.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

While local plants are capable of continuously processing large volumes, actual production, of course, varies during the year. Plants will add a shift, hire additional employees, and maximize processing and freezing capabilities during various seasons and season overlaps. These adaptations are required since various species need separate processing lines, machinery, and crews. At other times, especially during the later months of the year, the plants have little, if anything, to process, and lay off employees and attempt to minimize their overhead costs. Table 2.9-18 provides average annual employment figures for Kodiak plants for the period 1999-2002.

Table 2.9-18 Annual Average Employment by Kodiak Shore-based Processors, 1999 to 2002

Processor	1999	2000	2001	2002
Ocean Beauty Seafoods	337	338	342	206
Trident Seafoods Corporation	100	184	184	188
Cook Inlet Processing (Polar Equipment)	206	228	191	1
North Pacific Processors	218	198	222	182
True World Foods (formerly International Seafoods)	208	147	126	157
Global Seafoods Kodiak LLC	7	137	74	1
Western Alaska Fisheries	137	110	126	133
Alaska Fresh Seafood	36	41	38	40
Kodiak Salmon Packers	21	29	28	1
Kodiak Fishmeal Company	17	16	17	17
Wards Cove Packing Company	3	14	20	9
Island Seafoods	6	9	13	44
Kodiak Seafood Processing	15	4	3	1
Kodiak Smoking & Processing	3	3	6	6
Total	**1,314**	**1,458**	**1,390**	**986**

Source: McDowell Group, 2002; Department of Labor and McDowell Group Estimates

In the words of one long-time Kodiak fisherman, "Our key is to be able to diversify, but it is still tough to make it." This ability to diversify has become paramount to both the fishermen and the processors of Kodiak. Shore-based plants have added crews, space, freezers, and equipment and have searched for new markets as fishermen have been seeking, entering, and participating in pulse fisheries that feature wildly variable deliveries. Occasionally when open fisheries are exploited by new entrants, new products emerge. While this includes previously unexploited resources, such as sea cucumbers or snails, it also includes variations of existing resources. Pacific cod harvested in pot gear is such an example.

Processors differ in the degree to which they actually do diversify their operations. Groundfish is the highest volume component and provides an essential base of employment for work crews at a number of plants. Without groundfish these plants could not provide enough work to support their crews as Kodiak residents. Several plant managers made the same point about the other species they processed as well, although groundfish was perhaps considered more of a foundation of operations (up to 80 percent of most operations). Similarly, most processors consider their plant as only one component of an integrated system that requires a healthy harvesting sector, a stable and reliable processing labor force and an efficient plant, and capable management and adequate financial backing.

The general sector description contained in the NPFMC sector profiles developed for the crab and groundfish license limitation and IFQ analysis in the mid-1990s (IAI 1994) is still generally valid, with a few caveats. On average, less halibut is delivered and processed in Kodiak than in previous years, as one result of the IFQ system has been to reduce the processors' margin on halibut to very little, but there is variation from year-to-

year, and the level of change is not drastic. Harvesters can receive a higher price in Homer or Seward than in Kodiak, and both of those ports receive more halibut than does Kodiak. Most processors are also very uncertain as to how they will meet their future labor requirements. At present most retain a "core" crew of Kodiak residents, which they supplement as necessary with additional resident labor, and transient labor housed in a bunkhouse for peak demand periods. Processors seldom wish to bring labor in for any period shorter than the summer, due to the need to train and house such labor, but at least one plant was forced to do so the last couple of years. They constructed a 40-person bunkhouse to accommodate them. Other plants that are part of companies with several processing facilities will transfer labor from one to another as labor needs change in the various locations. Labor costs are reported to have increased, due to the strong national economy that lasted into 2001, as well as the increase in locally available entry-level jobs in the retail and service sectors. Plant managers also report that many fewer college students approach them (either remotely or by simply appearing in Kodiak) than in years past.

Specifically in regard to the BSAI crab species included in the proposed alternatives, harvesters and processors both stated that the opportunity to deliver to, and process in, Kodiak was important to their operations in particular and the viability of their sector and community in general. Potential limitations on these opportunities are related primarily to the regionalization components of the alternatives. The points stressed by harvesters were that delivering BSAI crab to Kodiak reinforced their social relationships and interactions in the community, provided a significant economic support to Kodiak processors (and the city of Kodiak and KIB, and provided them with another market that generally resulted in better prices. Processors similarly noted that even though BSAI has been a relatively low volume species for them in the recent past, its high value gives it disproportionate significance for their operations. Kodiak processors believe that they could compete and increase their market share for BSAI crab, especially in a rationalized fishery, which would reduce the incentives for quick (Bering Sea port) delivery. They cite the 2000 crab season as support for this contention, as they greatly increased their market share over that of the recent past. Thus, any alternative that limits the ability of Kodiak processors to compete for BSAI crab could have potential adverse effects on both Kodiak processors and crab vessels. It would be an addition to the competitive advantage that Bering Sea processors reportedly achieve over Gulf of Alaska processors from rationalized fisheries in the Bering Sea in relation to the open access fisheries of the Gulf of Alaska.

Support Services

The full spectrum of services for the fishing industry is present in Kodiak, as described in detail in the NPFMC community profile developed for the Inshore/Offshore-1 amendment (IAI 1991). Support services include a wide range of companies, including such diverse services as accounting and bookkeeping, banking, construction and engineering, diesel sales and service, electrical and electronics services, freight forwarding, hydraulic services, logistical support, marine pilots/tugs, maritime agencies, ship repair facilities (recently enlarged), stevedoring and shipping, and vehicle rentals, among others. There is no other community in the area with this type of development and capacity to support the Gulf of Alaska fisheries, and the community also serves as a support hub for some of the BSAI fisheries as well, although clearly Unalaska/Dutch Harbor is far and away the primary support base for that region.

The Port of Kodiak has more than 650 boat slips and three commercial piers that can handle vessels up to 1,000 feet long. Kodiak is also a vital link in the regional transportation network. As the hub of the Gulf of Alaska container logistics system, Kodiak serves Southwestern Alaska communities with consumer goods and provides outbound access to world fish markets. LASH[35] Marine Terminal, in Women's Bay, provides service to several freight carriers, freight forwarders and consolidators, construction contractors, and Kodiak's fishing fleet. Regularly scheduled container ships operate between Kodiak and the Pacific Northwest, and

[35] LASH is an acronym for Lighter Aboard SHip vessels that carry multiple (approximately 90) standard size LASH barges that can be independently loaded/offloaded and towed to and from the oceangoing ship to smaller ocean or inland waterways ports.

between Kodiak and the Far East. Kodiak also serves as a key water transportation system link for other Alaskan coastal communities.

No systematic information exists on how support services have been affected by changes in the local economy in general. However, as for other communities, a number of qualitative indicators are available. The loss of population in the city of Kodiak relative to outlying regions may reflect a weakening economy. Interviews with such primary fisheries support services such as the boat yard and the hydraulics shops indicated that fishermen were deferring more regular maintenance, and even canceling upgrades that had been scheduled in the past but which now, in the light of adverse fishing conditions, do not appear to be prudent investments. Several such jobs were said to have been canceled the day after the Steller sea lion RPAs were announced. These operations also note that the number of their uncollected bills has increased. There is no indication, however, that any particular the crab rationalization alternative would have a significant impact on Kodiak support service businesses, unless it took the form of essentially eliminating Kodiak participation in the fishery altogether. Bering Sea crab rationalization is certainly seen as important for Kodiak, but it is also perceived as only one component of a constellation of ongoing management initiatives that include the more salient (for Kodiak) Steller sea lion protection measures and planning for Gulf of Alaska rationalization of groundfish.

The Municipality and Revenues

Fish tax revenues are an important source of revenue for both the city of Kodiak and the KIB. However, Bering Sea crab has been a relatively small part of this (as shown previously in Table 2.9-10). Municipal revenue information for 1999 and 2000 parallel to that presented for the other Alaska communities profiled is presented in Table 2.9-19. Local sources of revenue include a 6 percent (to a maximum of $30 per transaction) sales tax, property taxes of 2.0 mills (City) and 9.25 mills (KIB), and a 5 percent city/borough accommodations tax. The KIB also has a 0.925 percent severance tax.

Table 2.9-19 Kodiak Municipal Revenues, 1999 and 2000

	1999	2000
Local Operating Revenues		
Taxes	$7,377,771	$7,998,729
License/Permits	$65,969	$44,028
Service Charges	$2,522,717	$1,400,947
Enterprise	$5,559,886	$6,315,214
Other Local Revenue	$1,941,751	$2,105,864
Total Local Operating Revenues	$717,508,094	$17,864,782
Outside Operating Revenues		
Federal Operating	$0	$0
State Revenue Sharing	$118,049	$82,265
State Safe Communities	$332,799	$222,926
State Fish Tax Sharing	$615,603	$618,504
Other State Revenue	$105,844	$92,950
State/Federal Education Funds	$0	$0
Total Outside Revenues	$1,172,295	$1,016,645
Total Operating Revenues	**$18,680,389**	**$18,881,427**
Operating Revenue Per Capita	$2,710	$2,762
State/Federal Capital Project Revenues	$7,500	$491,851
TOTAL ALL REVENUES	**$18,687,889**	**$19,373,278**

Source: DCED Website, 2001, 2002

As for other communities, more detailed budget information was obtained from the city of Kodiak and the KIB. This information indicates that raw fish tax has declined since 1997. However, this is primarily related to reduced processing of Gulf of Alaska fisheries. Landings of the BSAI crab species in Kodiak have increased since 1998, as has the value of the associated processing, so that the effect of this crab on raw fish tax receipts was positive in 1999 and 2000. Furthermore, even with the general problems experienced by the fishing industry**,** these budgets have not shown much change in total revenues since 1998. This is in sharp contrast to other fishing communities with less diverse economies. Table 2.9-20 provides a summary of shared fisheries specific taxes received by the KIB, which is largely driven by activity in the City of Kodiak, for fiscal years 1999-2002. As shown, there has been considerable variation in annual totals over the past few years.

Table 2.9-20 Shared Fisheries Tax Received by the Kodiak Island Borough, FY 1999-2002

Fiscal Year Received by Borough	Fishing Year in which Taxes were Collected	Value of Seafood Landed in Kodiak (millions of dollars)	Landing Tax	Fisheries Business Tax	Total
1999	1997	$82.9	$13,946	$841,131	$855,077
2000	1998	$79.3	$10,247	$718,310	$728,557
2001	1999	$103.9	$24,592	$923,772	$948,364
2002	2000	$94.5	$5,219	$1,282,125	$1,287,344
2003	2001	$80.5	$37,162	$759,211	$796,393

Source: McDowell Group, 2002; Department of Revenue annual reports on shared taxes.

Summary of Recent Community Fishery IFQ/Co-op Rationalization Experience and Implications for Likely Crab Rationalization Impacts

Kodiak harvesters and processors have experienced previous fisheries rationalization programs – IFQ programs for halibut and sablefish, and the AFA actions for pollock in the Bering Sea. Those experiences, and their potential applicability to potential crab rationalization approaches are summarized in this section.

In terms of IFQ experience, although many Kodiak harvesters were opposed to an IFQ system for halibut and sablefish when it was first proposed, many Kodiak fishermen have derived a great deal of benefit from the program. The fishery can be prosecuted in a more rational way, coordinated with other fisheries, and in a manner that has appeared to have increased safety. While entry into the fishery is now more expensive than when it was an open access fishery, IFQs are readily bought and sold and are as easily capitalized as other assets required for the fishery, and perhaps more so.

IFQ experience in processing has been somewhat different in terms of the perception of local benefits. Kodiak processors are almost unanimous in stating that the IFQ program has resulted in less halibut being processed at their plant in Kodiak than during the derby system, and at much lower profit margins for the processor. Overall landing figures for the community do not seem consistent with an assertion that overall landings are down for all years post-IFQ implementation (for example, as shown in Table 2.9-14 substantially more halibut was landed in Kodiak in post-IFQ 1997 than in the pre-IFQ years 1993 and 1994), but individual plant cost and return data are not available to examine the magnitude of changes in profit margins. Reported loss of profit margins are attributed to the allocation of quota to harvesters, and the harvesters' subsequent ability to extract relatively high prices from markets not accessible to Kodiak processors. According to the

Kodiak Chamber of Commerce, in the year 2000 halibut accounted for only 2.3 percent of the fish landed in Kodiak by weight, but for fully 24.4 percent of the ex-vessel value of the fish landed at Kodiak. Thus, it is a very important fishery for the local Kodiak fleet, but it has apparently become economically more of a niche fishery for Kodiak processors in terms of its overall role in operations. Applicability of this experience to conditions associated with the crab rationalization alternatives is somewhat limited, as BSAI crab accounts for a very small portion of local processing volume and value in the pre-rationalization context.

Kodiak's experience with co-op style rationalization under AFA conditions has been quite different from its IFQ experiences. One outcome of the AFA has been a situation where Gulf of Alaska open access processors have been put in a position of competing with BSAI co-op (rationalized) processors. This uneven rationalization has meant that open access entities are competing with the same products in the same markets with the rationalized entities without the structural benefits of the co-op system. That is, the cost of doing business for Gulf of Alaska processors is higher than for BSAI processors, which places them at a competitive disadvantage. This situation could be replicated with a BSAI crab rationalization taking place ahead of a Gulf of Alaska crab rationalization if that alternative were to be adopted, but again the role of crab for Kodiak processors is quite small in comparison to the situation in the groundfish fishery.

Another processing impact under AFA conditions is seen in the "race for history" behaviors that have been observed among both processors and harvesters in the Gulf of Alaska in anticipation of an AFA-like rationalization in the Gulf of Alaska. This has led to strategic decisions that may not be economic in the short run and may not be in the best interest of all local sectors or relationships between sectors, as different sectors (and different entities within individual sectors) strategize differently. Different entities have widely differing abilities to adapt to this "irrational" strategic environment. These circumstances have had impacts on both new and long established processors.

In terms of the experience of impacts to catcher vessels under AFA co-op rationalization,"fishing for history" behaviors are also taking place in the Kodiak-based fleet. As among processors, this can include pursuing strategies that are uneconomic in the short term. There was also speculation among catcher vessels that BSAI vessels would use rationalization-gained economic and temporal flexibility advantages to capitalize expansion into the Gulf of Alaska fisheries. Sideboards were put in place specifically to address these types of concerns and appear to be working at least in the short term. Whether these circumstances would apply to the BSAI crab rationalization effort would depend on the relative timing of Gulf of Alaska rationalization as well as the specific structure of the rationalization program.

In terms of general community level impacts from previous rationalization efforts, while housing, tax revenues, and other community indices have changed over this period, there is no indication that these changes are directly related to fishery rationalization programs, or that there are other community level impacts in Kodiak attributable to either IFQ or AFA co-op conditions. It is apparent from interview data, however, that impacts have been felt at the individual operational level. Impacts to processors under the IFQ system for halibut and sablefish cannot be quantified with available data, as earlier noted, and the impacts resulting from AFA conditions involve, among other factors, differential advantages (or disadvantages) in an uneven rationalization process where open access fishery components compete against rationalized components. These same dynamics could be experienced in Kodiak under crab rationalization.

In terms of other impacts related to BSAI crab rationalization, Kodiak participation in the Bering Sea crab fisheries is primarily thorough the harvesting sector, with Kodiak catcher vessels delivering to Bering Sea processors. A few Kodiak catcher processors operate in Bering Sea crab fisheries, and some Kodiak (and other) crab vessels deliver a limited amount of Bering Sea crab to Kodiak processors. For shore-based processors, current participation of Kodiak entities is relatively low compared to the locally based harvest

sector – but increased greatly in 2000 relative to the 1990s. In terms of the components of the crab rationalization alternatives, the following general points can be made:

- Kodiak Bering Sea crab harvesters should benefit from (or not lose ground as a result of) harvester allocations of crab quota under the "three-pie" alternative, with or without co-ops, and with or without regionalization. The AFA experience of processor-rights protection, through co-ops, has shown that both harvesters and processors can gain additional value from the resource. The differential effects of direct allocations versus cooperatives cannot be readily distinguished, as much would depend on how co-ops were implemented and how closely harvesters would be tied to processors. The likely effects of a "three-pie" system allocation on Kodiak harvesters are thus unknown at this point, although Kodiak harvesters intensely debate the potential effects at great length. Regionalization is a very high level of community/processor protection and should minimally affect most Kodiak harvesters, depending on the percentage of crab that is allowed to be delivered to any processor in either region.

- Kodiak catcher processors are already vertically integrated in terms of harvesting and processing, so that none of the alternatives are likely to result in any real differential effects upon them. As they are mobile platforms, regionalization should not have any significant effects. "Excessive share" caps could affect these operations, but confidentiality concerns preclude discussion of these issues.

- Kodiak processors at present do not have a substantial established history in the Bering Sea crab fisheries for the qualifying periods being considered. While important to BSAI crab processing in the more distant past, local processors have minimal contemporary involvement, being in some cases effectively restricted to short season's "last load" deliveries of locally based vessels. In a rationalized Bering Sea crab fishery, Kodiak processors generally feel that they could compete for more than their historical percentage of the Bering Sea crab processed in Kodiak. That is, the thought is that in a system free from a race for crab but unconstrained (at least to a degree) as to where crab can be delivered, Kodiak processors could compete by offering higher prices to compensate for their relatively greater distance from the resource.

- The situation in Kodiak regarding the potential impacts of crab rationalization is in some ways the inverse or opposite of the situation in the Pribilofs. In the Pribilofs, local BSAI crab processing is taking place due in large part to present inefficiencies in the fishery that, in turn, make the higher costs of local processing worthwhile in an unrationalized system. This means that adverse impacts local to St. Paul would take place with a type of rationalization where operations or effort could relocate elsewhere from present sites. For Kodiak, local BSAI crab processing is not taking place because of inefficiencies in the fishery that, in turn, make the lower costs of local processing not worthwhile in an unrationalized system. This means that beneficial impacts local to Kodiak would take place with types of rationalization where operations or efforts could relocate elsewhere from present sites. St. Paul would benefit from locking in location of effort through regionalization and lose under a free movement of effort scenario; Kodiak would likely experience just the opposite.

- A major difference between Kodiak processors and those that have operated in the Pribilofs, however, is that Kodiak processors are quite diversified and are not dependent on Bering Sea crab. Processors operating in the Pribilofs are quite dependent on Bering Sea crab, and the future economies of St. Paul and St. George are very dependent on Bering Sea crab. Thus, while in some respects the regionalization provision has opposite effects in the Pribilof and Kodiak communities, the adverse effect in the Pribilofs would likely be much more intense and broad-based than the positive effect in Kodiak. In other words, on a community level of analysis and in relative terms, St. Paul stands to lose much more than Kodiak would gain with a net effective flow of processing

effort away from St. Paul and toward Kodiak. These types of concerns could be mitigated to the degree to which allocation of processing history is made on a geographic basis, but these protections would, in turn, potentially entail their own economic (efficiency) costs resulting from their attempts to take into account these public policy concerns.

- The balance between Kodiak-owned harvester and Kodiak-located processor engagement in the fishery is, in some ways, the inverse situation seen in Unalaska/Dutch Harbor. Unalaska/Dutch Harbor dominates BSAI crab processing, while there is relatively very little Unalaska/Dutch Harbor resident-owned vessel harvest in these same fisheries. Kodiak (at least in comparison to the rest of Alaska) dominates the BSAI crab harvest in terms of the proportion of catch taken by the resident-owned fleet, but locally based processors handle relatively little BSAI crab. This disjunction or asymmetry makes the assessment of community level impacts for Kodiak less than straightforward. While the local fleet would appear to fare well under the different rationalization alternatives, the local processors face challenging conditions under these same approaches.

These factors, taken together, would suggest that Kodiak-based operations may experience a number of impacts related to the BSAI crab rationalization. However, it is also clear that given the current level of engagement with and dependence upon the fishery that community level or community-related social impacts from crab rationalization are unlikely. That is, while there would be impacts to some individual operations, most impacts would be more in the form of preclusion rather than adverse impacts related to current dependency.

Differential Impacts of the Three Rationalization Alternatives at the Community Level

As summarized above, for Kodiak the engagement in the BSAI crab fishery is based primarily upon ties to harvest fleet activity and secondarily on participation in processing (with some locally owned catcher processor activity as well). Beneficial or adverse impacts to the community of Kodiak deriving from the different rationalization alternatives result from the differential outcomes for these activities.

Each of the rationalization alternatives have identical provisions regarding increased allocations to the CDQ program (inclusion of additional species and an increase in the included species set-aside from 7.5 to 10 percent of the total allocation), creation of captain's harvest quota shares (3 percent of the TAC), and a community development allocation to Adak (10 percent of the WAI golden king crab allocation). Each of these provisions are directed toward fostering beneficial community or social impacts for at least some groups or areas. Kodiak, as a non-CDQ community, would not benefit from the CDQ program increases. Creation of captains shares would benefit a number of individuals from Kodiak, but are unlikely to be significant at the community level. The Adak community allocation would have significant beneficial or adverse impacts for the community of Kodiak.

Regionalization is a feature of the three-pie alternative and the IFQ alternative, but is not a part of the cooperative alternative. Regionalization is explicitly designed to create beneficial community or social impacts for at least some groups or areas. The north/south region designation was designed primarily to benefit the Pribilofs, while the west region designation in the WAI golden king crab fishery was designed primarily to benefit Adak.

Impacts of the west region creation would likely be insignificant for Kodiak. Impacts of the creation of the north/south regional split in and of itself under the three-pie alternative are not likely to be significant for the community of Kodiak, absent the accompanying community protection provisions discussed below. Regionalization under the IFQ alternative, which has no specific community protection provisions (save for a waiver of sea time requirements for eligible community purchase of harvest quota share, as discussed below), would not hinder the type of processor consolidation that could have negative impacts on the

community of Kodiak, were local BSAI crab processing to exit the community. Under the three-pie alternative Kodiak (if deemed an eligible community) would retain levels of processing activity seen during the qualifying period (due to a combination of regionalization and community protection features, as described below). For Kodiak, as a community in the south region, potential consolidation impacts would not be likely to vary under the IFQ alternative, which has regionalization but no community protection, and the cooperative alternative, which has no regionalization. Under the IFQ alternative, consolidation involving Kodiak could occur within the south region alone, under the cooperative alternative, it could occur anywhere. However, it is unlikely that processing that is presently occurring in Kodiak would move to a north region community (St. Paul or St. George). It is much more likely that consolidation would occur in the other direction, although how much processing would be likely to move to Kodiak is unknown.

Additional community protection features of a "cooling off" period and a right of first refusal on transfer of processing quota shares are a part of the three-pie alternative (and are not a part of any other alternative). Eligible communities (those that had 3 percent of processing activity for covered species) would be assured that during the 2-year "cooling off" period processing quota would not be moved out of the community. Subsequent transfers would be subject to a right of first refusal that would allow an eligible community (through its CDQ group or another community group, if a CDQ group were not present) to obtain ownership and control over processing quota to retain local processing activity. (Due to confidentiality restrictions, it cannot be disclosed whether or not Kodiak is deemed eligible for community protection provisions.)

For Kodiak, if eligible, both of these features would have the potential to confer beneficial community and social impacts. The "cooling off" period would ensure that processing activity levels seen in the qualifying period would continue in the community, and the right of first refusal would ensure that a local community group (comprised of city and borough representatives, as Kodiak is a non-CDQ community within a borough) would be able to obtain processing quota if it were at risk for leaving the community in the future. Exercising the right of first refusal would result in positive benefit to the group and the community, particularly if the quota share would have otherwise left the community.

Additionally, Kodiak is a potential beneficiary (if deemed an eligible community) of a right of first refusal provision unique to the Northern Gulf of Alaska area (defined as that portion of the Gulf of Alaska north of 56 degrees 20 minutes north latitude; see Figure 2.9-1 "Northern Gulf of Alaska Processor Share 'Right of First Refusal' Area"). In all other areas, a qualifying community has the right of first refusal on processor quota share potentially leaving that specific community (except for quota moving between plants owned by the same firm in different locations within the same region). In the Northern Gulf of Alaska area within the larger south region, qualifying communities have the additional right of first refusal for processing quota being sold in all other communities within the Northern Gulf of Alaska area in addition to their own. In other words, the right of first refusal in all other areas is designed to allow a community to maintain quota share, whereas in the Northern Gulf of Alaska subregion the right of first refusal is designed to allow eligible communities to increase quota share (by aggregating or "sweeping up" quota from communities with less than 3 percent share of qualified fisheries).

Whether or not these community protection features provide neutral or positive benefits to the community depend on what individual operation's decision making processes would have been regarding consolidation absent these provisions, which is unknowable. For example, without knowing confidential business information, it is not clear whether in the absence of community protection measures consolidation within the processing sector as a result of rationalization would increase or decrease activities in Kodiak. Following the "cooling off" period, however, Kodiak could lose local processor activity if the owner of a Kodiak plant decides to shift the use of processing quota to one or more plants owned by the same entity outside of Kodiak but within the south region. Whether or not this is a realistic scenario is unknown, but it is noted as a possibility.


North Pacific Crab EIS
GIS2002 2K101 GIS\mxd\map3.mxd Albers Conical Equal Area NAD27m (E.Coughlin) 4/23/03
ALASKA
Saint Matthew I.
Bethel
Anchorage
Cordova
Seward
Yakutat
Homer
BERING SEA
Dillingham
NORTHERN GULF OF ALASKA AREA
Saint Paul
Saint George
Kodiak
Port Heiden
Port Moller
Chignik
56°20'N
Sand Point
King Cove
Unalaska/ Dutch Harbor
Akutan
GULF OF ALASKA
NORTH PACIFIC OCEAN
Source: Alaska Dept. of Natural Resources
150 75 0 150 Miles
NORTH
Scale: 1:9,504,000; 1 inch = 150 miles
Northern Gulf of Alaska
Processor Share "Right of First Refusal" Area

The rationalization alternatives also differ on the ability of communities to obtain harvest quota share. Under the three-pie and IFQ alternatives, CDQ groups, or other community groups if a CDQ group is not present, in eligible communities (again, those with 3 percent or more of processing activity for covered species during the qualification period) would be able to purchase harvest quota share due to a waiver of sea time requirements that would otherwise prevent such purchases. By design, the ability to obtain harvest quota share could result in beneficial community and social impacts through communities becoming more directly engaged in the fishery.

In the case of Kodiak, harvest quota shares, if purchased, would be obtained by the local community group. If exercised, this ability could result in beneficial community and social impacts through the community becoming engaged in the fishery in a way that it is not under existing conditions.

Another potentially distinguishing feature of the rationalization alternatives from a community or social impact perspective is the ability of harvesters to form co-ops under the three-pie and cooperative alternatives (but not under the IFQ alternative). For Kodiak, the impacts of this ability (or lack thereof) on the local fleet, and how those would translate into community or social impacts are unclear.

3.0 PACIFIC NORTHWEST COMMUNITIES

There are a number of communities in the Pacific Northwest region that have important links to the BSAI crab fisheries, and these are found throughout a large portion of the Washington inland waters area as well as along the Oregon coast. However, none of these communities have the breadth and depth of ties found in the greater Seattle metropolitan area. Many towns serve as the home port for at least some catcher vessels participating in the fishery, but Seattle alone serves as a center of harvesting, processing, and support service sector activity and ownership. Figure 3.0.1 shows the location of Seattle and many of the communities of the Washington inland waters area with ties to North Pacific commercial fisheries.

3.1 SEATTLE

The term "Seattle" as used in this section refers to the greater Seattle metropolitan area and is not confined to the port or municipality of Seattle, except where specifically noted. Seattle, in one way or another, is engaged in all aspects of the BSAI crab fishery. While Seattle itself is quite distant geographically from the harvest areas of the fishery, it is the organizational center of much of the industrial activity that comprises the human components of this fishery. More accurately, specific industry sectors based in and/or linked to Seattle (or, in some cases, specific geographic subareas within Seattle), are "substantially engaged in" or "substantially dependent upon" the BSAI crab fishery.

Similar to a pattern that has been described in recent NPFMC and NMFS groundfish fishery-related documents (e.g., NPFMC 2002; NMFS 2001a, NMFS 2001c), what makes Seattle an analytic challenge, in terms of a socioeconomic assessment directly related to the Alaska crab fishery, is its scale and diversity. Like its relationship to the North Pacific groundfish fishery, Seattle's relationship to the BSAI crab fishery is a paradox. When examined from a number of different perspectives, Seattle is arguably more involved in the Alaska crab fishery in general, and the BSAI crab fishery in particular, than any other community. One example is the large absolute number of "Seattle" jobs within the BSAI fishery compared to all other communities, whether counted in terms of current residence, community of origin, or community of original hire - setting aside, for the moment, where the jobs are actually located. On the other hand, when examined from a comparative and relativistic perspective, it could be argued that the fishery is less important or vital for Seattle than for the other communities considered. Using the same example, the total number of BSAI crab fishery-related jobs in greater Seattle compared to the overall number of jobs in Seattle is quite small, in contrast with the same type of comparison for the much smaller Alaska coastal communities. The sheer

Washington Inland Waters Area Communities

NPFMC Crab Rationalization

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size of the Seattle area (over 2.5 million residents in 1990 and over 3.5 million residents in 2000) dilutes the overall impact of the BSAI crab fishery jobs, whereas in Alaskan communities such jobs represent a much greater proportion of the total employment in the community setting aside, for the moment, the consideration of whether those jobs are filled by "residents." In National Standard 8 terms, Seattle is clearly "substantially engaged" in the BSAI crab fisheries, but as a community it cannot be termed as "substantially dependent" upon the fishery in the same sense as some of the smaller-scale communities profiled.

While the greater Seattle area is the center for much of economic activity related to the BSAI crab fishery, the geographic footprint of those activities is difficult to define, and it cannot be attributed to specific communities or neighborhoods in the same manner as Alaska communities may be linked to the fishery, as developed in discussions below. For comparative purposes, however, Table 3.1-1 provides total population and ethnicity data for the Seattle-Tacoma Consolidated Metropolitan Statistical Area (CMSA) as defined by the U.S. Bureau of the Census.[36] As shown, while one might expect a major metropolitan area to be more diverse than small coastal Alaskan communities, in Seattle, unlike the Alaska crab communities, the white component of the population comprises a large majority of the overall population (i.e., minorities are actually a distinct mathematical minority, unlike the relevant Alaska communities). Only a part of this difference may be accounted for by the predominance of Alaska Natives in some of the relevant crab communities. Shore plants in Alaska tend to recruit their workforces from locations outside of Alaska, and many recruits tend to be members of non-Native minority groups. This seafood-associated workforce is proportionately large enough to influence overall community demographics in these smaller communities.

Table 3.1-1 Ethnic Composition of Population, Seattle-Tacoma CMSA, 1990 and 2000

Race/Ethnicity	1990		2000	
	N	%	N	%
White	2,214,579	86.5%	2,819,296	79.3%
African American	121,702	4.8%	165,938	4.7%
Native Amer/Alaskan	32,980	1.3%	41,731	1.2%
Asian/Pacific Islands*	164,386	6.4%	300,533	8.5%
Other**	25,517	1.0%	227,263	6.4%
Total	2,559,164	100%	3,554,760	100%
Hispanic***	71,069	2.8%	184,297	5.2%

* In the 2000 census, this was split into Native Hawaiian and Other Pacific Islander (pop 19,837 (0.6%)) and Asian (pop 280,696 (7.9%))

** In the 2000 census, this category was Some Other Race (pop 79,353 (2.2%)) and Two or More Races (pop 147,910 (4.2%)).

*** "Hispanic" is an ethnic category and may include individuals of any race (and therefore is not included in the total as this would result in double counting).

Source: U.S. Bureau of Census

Information on household structure for the Seattle-Tacoma CMSA comparable to that provided for the relevant BSAI crab communities is not presented here. These types of data at the CMSA level are not meaningful for this analysis.

[36] A Metropolitan Statistical Area (MSA) can be defined as a city of over 50,000 inhabitants together with the county in which it is located and contiguous counties that are economically and socially integrated with the central city. It may also consist of an urbanized area of 50,000 with a total metropolitan area population of at least 100,000. A Consolidated Metropolitan Statistical Area (CMSA) consists of two or more contiguous MSAs. The Seattle-Tacoma WA CMSA consists of Seattle WA PMSA (1) King and Snohomish Counties, and (2) Tacoma (Pierce County).

As is also clear from earlier compiled sector descriptions, while all sectors are tied to Seattle in one way or another, the magnitude and nature of these ties vary considerably between sectors. It is through these ties, and how they are manifested in Seattle, that the role of the community in the BSAI crab fishery can be seen. While it was possible, and desirable for analytic purposes, to include some community level description for a few of the Alaska coastal communities in this document to show the relative "engagement" or "dependence" on the fishery, for Seattle this type of comparison tends to understate the importance of the BSAI crab fishery for particular sectors or subareas, losing the importance of the fishery in the "noise" of the greater Seattle area.

The precise nature of the relationship between a given sector and the Seattle area varies from sector to sector, in terms of employment patterns, expenditure patterns, and concentration or localization in the Seattle area. While local experts and industry participants are well aware of these patterns, systematic quantitative information to describe these patterns was not available at the time of this study. This section is based on the limited information available and is supplemented with information garnered from field interviews to provide a community context characterization.

There are (at least) two approaches to discussing the localization of fishing activity in general, and BSAI crab fishery activity in particular, within the Seattle area. The focus could be on port activity and economic organization, or on a more general historical/geographical (neighborhood or community) focus centered around fishermen, fishing activities, and marine support businesses. The first approach has the advantage of being well defined but is totally industry focused, and fishing-related activities comprise only a small portion of total activity and are not an easily "isolatable" component using existing information. The second approach, generally corresponding to the common identification of Ballard and its environs with Seattle's fishing community, would incorporate much more of the overall social organization of fishing activity but is very difficult to define and characterize within an overall economic and social context as large as Seattle's. Either approach would be a huge task for which available information is limited. A compromise has been reached in this document by briefly discussing the Port of Seattle in regard to the BSAI crab fishery and providing a cursory history and characterization of Ballard within the context of greater Seattle. This section first overviews the fishery from the community context and then focuses on fishery-related industrial areas. The conclusion includes a discussion of the issue from the perspective of the "community side" of the links.

The Seattle "Geography" of the BSAI Crab Fishery

In this section, locational issues are discussed with respect to the Seattle area and the BSAI crab fishery. Here, the discussion is divided into three components: the institution of the Port of Seattle, the "traditional" community of Ballard, and the planning area construct of the Ballard Interbay Northend Manufacturing Industrial Center (BINMIC). Each component provides a different and useful perspective on the Seattle social/socioeconomic ties to the fishery. The Port of Seattle is one of the more obvious ways to discuss the localization of the fishing economy in Seattle and the concentration of potential socioeconomic impacts of fishery management upon Seattle but is relatively "one dimensional" as a governmental entity rather than a community with a residential base. Ballard is another locally recognized area with a fishing identity but differs in being a more complex community. Ballard is also more "fuzzy" as a bounded unit than the officially defined port, as there is no official demarcation of what is now essentially a neighborhood area of Seattle. BINMIC is a planning area that does not have a salient identity with the general population, but it does represent another geographic footprint that contains a number of fishery-related enterprises, and that makes it at least potentially useful for this analysis. Unfortunately for the purposes of this analysis, one of the attributes the port, Ballard, and BINMIC have in common is a practical limitation on the availability of data that are specifically attributable to the BSAI crab fishery.

The Port of Seattle

Martin Associates (2000) provides an overall assessment of the economic impact of fishing activity based at Port of Seattle facilities. They conclude that such activity generates $400 million in wages (direct, indirect, and induced), $315 million in business revenues, $42 million in local purchases, and $48 million in state and local taxes. There is no way to desegregate the Alaskan distant water fleet from this overall impact, so the utility of the information for the present purposes is limited. They do provide estimates for the annual expenditures in Seattle of the various fishing vessels homeported there, and as might be expected, those for the larger vessels, such as participate in the Alaskan groundfish fisheries, are the highest in terms of expenditures per vessel – $250,000 for catcher trawlers, $900,000 for factory trawlers, and $1.7 million for motherships. Crabbers are in the $180,000 range. Most of the vessels in these classes homeported in Seattle probably participate in the Alaskan groundfish fisheries but also participate in other fisheries. There are also many vessels in the Seattle distant water fleet that do not participate in the Alaskan groundfish fisheries. The Port itself does not have information on moorage fees received, either in total or for segments of the fleet.

The Port of Seattle is separate from the Municipality of Seattle and is an economically self-supporting entity. Besides its direct revenues, it receives 1 percent of the property tax collected in King County, but with a cap on funding not to exceed $33 million a year. In turn, all port revenues are charged a 12.4 percent tax, which is split between the City of Seattle and the State of Washington (in lieu of property tax). The Port's charge is the development of infrastructure that will support local and regional economic activities, especially in cases where the rate of return on investment in that infrastructure may be too low (although still positive) for the private investor. Such development contributes to the overall economy of the region through synergistic and multiplier effects.

The Port of Seattle includes not only marine facilities but the airport as well. The port publishes various reports on their activities, but most are either too general or far too specific for the purposes of this study. The Marine Division of the port tracks economic activity by general service area - container terminal, cargo piers and industrial properties, central waterfront piers and property, warehouse and distribution operations, Shishole Bay Marina (recreational moorage), and Fishermen's Terminal Pier and property. None of this information is organized so that expenses and revenues attributable to fishing activity (let alone specific fisheries such as the BSAI crab fishery) can be aggregated and assessed - although projects now underway will, in the future, provide such information to a greater degree than at present. Given this lack of breakout documentation, most of the information on the nature and magnitude of the importance of Alaskan fisheries for the Port of Seattle came from talks with the Director of Marine Operations for the port.

The Port's marine facilities occupy an extensive area but can generally be characterized as the Ship Canal-Elliott Bay areas. The Director of Marine Operations estimated that Alaska-related fishing activity generates port revenues of $1 million to $2 million a year. Facilities, and the degree to which they are connected with Alaska fishery activities, were identified as follows:

- Fishermen's Terminal (Ship Canal) - an estimated 10 percent of its revenues (roughly $2 million for all fisheries per year) was judged to result from catcher-processor operations and an additional 10 percent from catcher vessel activity associated with all Alaska fisheries (i.e., not just BSAI crab).

- Pier and Terminal 91 (North Elliott Bay) - used extensively by the catcher-processor fleet and provides the bulk of the Port's revenue specifically derived from the Alaska groundfish fishery, through moorage and other fees. This facility also caters to ferries, a tug and barge company, an auto importer, apple exports, and cold storage facilities.

- Central waterfront (mid-Elliott Bay) piers – not as directly fishery-related as the preceding facilities, although they are sometimes used by larger vessels (Pier 48, Pier 66, Pier 69).

- Pier 25 (East Duwamish Waterway, south Elliott Bay) - permanent moorage for one of the pollock mothership operations but also used for catcher-processor offloading; has cold storage facilities to hold product for transhipping, and a small surimi plant is located there.

- South end in general (Duwamish manufacturing and industrial center) - has some fisheries-related activities (such as cold storage facilities) but is more oriented to cargo operations and other industrial activities.

The summary conclusion for port-focused analysis is that crab fishing-related activities take place throughout the Port but are concentrated in the Fishermen's Terminal area. The crab fleet is a significant, but by no means the major, part of the Alaska fleet's contribution to the port. Of primary importance for fishing activity, and especially for larger vessels, is the availability of suitable moorage. Much of this moorage is supplied by the port, in an aggressive response to the demand from the fishing fleet.

The initial development of Fishermen's Terminal in the 1980s was because of the perceived need for more moorage for larger vessels involved in the distant water fisheries. The current redevelopment of Fishermen's Terminal will likely increase this emphasis through the conversion of smaller moorage stalls to facilities more suitable for vessels 50 feet and longer (NRC 1999). This is in response to the drastic downturn in the economic viability of the local fishing fleet, especially the local salmon fleet that had been historically based at Fishermen's Terminal, and the increasing importance of Alaskan distant water fisheries for Seattle-based boats. These vessels tend to be 50 feet in length or more.

The vacancy rate at Fishermen's Terminal has been 25 to 40 percent since 1995, which demonstrated the need to redevelop and refocus the mission of the facility (Port of Seattle 2002a). To attract new vessels, a $7,000,000 electrical upgrade to the electrical system and a $2,000,000 structural upgrade of the West Wall (moorage and facilities) was completed in October 2001 (Port of Seattle 2001). A $12.8 million replacement of the South Wall was scheduled for 2002. Prior to 1997, only commercial fishing vessels were permitted to moor in the Fishermen's Terminal, but in 1997 the Port changed its policies to allow commercial non-fishing vessels to moor there as well. In recognition that vacancy rates at Fishermen's Terminal remain too high, the Port recently agreed to permit limited moorage of recreational vessels at Fishermen's Terminal. This recognizes that recreational moorage in the Seattle area is relatively scarce, and that the numbers of commercial fishing vessels are declining, mainly in the smaller size classes (especially Pacific Northwest salmon boats). Still, Fishermen's Terminal will retain its commercial atmosphere, as recreational vessels will be confined to a limited number of relatively isolated docks (Port of Seattle 2002b).

Ballard

When looked at on a neighborhood basis, one of more obvious foci of the distant water fishery in the greater Seattle area is the community of Ballard. Today the term "Ballard" represents a loosely defined geographical neighborhood of northwest Seattle. There is no geographically standard area for which various types of comparable information exists. Nonetheless, the area does have a geographical identity in peoples' minds and, together with Magnolia and Queen Anne, has its own yellow pages telephone directory (published by the Ballard and Magnolia Chambers of Commerce). The following brief section is based predominately on information from the Ballard Chamber of Commerce (1998), Reinartz (1988a, 1988b, 1988c, 1988d), Hennig and Tripp (1988), and McRae (1988).

Fishermen's Terminal on Salmon Bay is recognized as the home of the Pacific fishing fleet and has been characterized as the West Coast's "premier home port." Fishermen's Terminal (Salmon Bay Terminal) in turn has often been identified with Ballard, which was formerly a separate city (incorporated 1890) before annexation by Seattle in 1907. Until the construction of the Chittenden Locks and the Lake Washington Ship Canal, opened in 1917, Salmon Bay Terminal was confined to relatively small vessels but was the focus of a developing fishing fleet. Once the area was platted and incorporated, it quickly attracted settlers and industries desiring or dependent upon access to Puget Sound. The timber industry was the first to develop, due to the need to clear land as well as the value of the timber that was available. By the end of the 1890s, Ballard was a well-established community with the world's largest shingle manufacturing industry, as well as boat building and fishing industries. By 1900 Ballard was the largest area of concentrated employment north of San Francisco.

Ballard effectively blocked the expansion of Seattle to the north, and court decisions had given Seattle control over Ballard's freshwater supply, with the result that Ballard became part of Seattle in 1907. At that time the community had 17 shingle mills, 3 banks, 3 saw mills, 3 iron foundries, 3 shipyards, and approximately 300 wholesale and retail establishments. The Scandinavian identity of Ballard developed at or somewhat before this time. In 1910, first- and second-generation Scandinavian-Americans accounted for 34 percent of Ballard's population, and almost half of Ballard's population was foreign-born. Currently, less than 12 percent of the population is of Scandinavian descent, but the cultural association remains pervasive.

Ballard's economy continued to develop and diversify, but it remained fundamentally dependent on natural resources, and especially timber and fishing. In 1930 the *Seattle Weekly News* reported that 200 of the 300 schooners of the North Pacific halibut fleet were homeported in Ballard, demonstrating not only the centrality of Ballard but the long-term importance of distant water fisheries to Seattle fishermen. In 1936 the Port of Seattle built a new wharf at the Salmon Bay terminal, and in 1937 a large net and gear warehouse was scheduled for construction there. Over the years, Seattle-based vessels were central to the evolution of a number of North Pacific fisheries.

Thus in some ways Ballard is considered a "fishing community within" Seattle. While this has historically been the case, when examined specifically with respect to the BSAI crab fishery, the area cannot cleanly be considered a "village within a city." While there is a concentration of multigenerational fishing families within the area, the "industrialization" of the Alaska fisheries has tended to disperse the ties and relationships. While support service businesses remain localized to a degree (as discussed in another section below), there does not appear to be a continuity of residential location that is applicable to the Alaska crab fishery. This is due to the many changes within the cluster of individual species fisheries that make up the overall Alaska crab fishery, and others in which these fishermen may participate. In summary, this "community within the community" issue is not straightforward due to the complex nature of historical ties, continuity of fishing support sector location through time, changes in the technology and methods of fishing, and industrialization of the fishery. Clearly, Seattle represents a different pattern of colocation of residence and industry with respect to the BSAI crab fishery than that seen in the relevant Alaska communities.

The Ballard Interbay Northend Manufacturing Industrial Center

One of the fundamental purposes for the establishment of the BINMIC Planning Committee was the recognition that this area provided a configuration of goods and services that supported the historical, industrial, and maritime character of the region. At the same time, developmental regional dynamics are promoting changes within the BINMIC area that may threaten the continued vitality of its maritime orientation. Among other objectives, the BINMIC final plan states:

> The fishing and maritime industry depends upon the BINMIC as its primary Seattle home port. To maintain and preserve this vital sector of our economy, scarce waterfront industrial land shall be preserved for water-dependent industrial uses and adequate uplands parcels shall be provided to sufficiently accommodate marine-related services and industries (BINMIC Planning Committee 1998:6).

Previous documents produced for the NPFMC (e.g., NPFMC 2002; IAI 1998) have discussed the BINMIC area, and some of this information is abstracted below. It is now becoming dated, however, as the BINMIC planning document has remained in the form in which it was "finalized" and the City of Seattle does not collect time series measures for the BINMIC area comparable to those, for example, collected for the Port of Seattle.

As previously noted, Ballard, in northwest Seattle, is commonly identified as the center of Seattle's fishing community. This may be true in a historical residential sense, but commercial fishing-related suppliers and offices are spread along both sides of Salmon Bay-Lake Washington Ship Canal, around Lake Union, along 15th Avenue West through Queen Anne, and then along the shores of Elliot Bay on both sides of Pier 91. Not surprisingly, this is also the rough outline of the formal boundaries of BINMIC, which is bordered by the Ballard, Fremont, Queen Anne, Magnolia, and Interbay neighborhoods. It is defined so as to exclude most residential areas, but to include manufacturing, wholesale trade, and transportation-related businesses. It includes rail transportation, ocean and freshwater freight facilities, fishing and tug terminals, moorage for commercial and recreational boats, warehouses, manufacturing and retail uses, and various port facilities (Terminal 86, Piers 90 and 91).

The BINMIC "Economic Analysis" document (Economic Consulting Services 1997) uses much of the same information as was reviewed above, in combination with an economic characterization of the BINMIC area, to establish that certain economic activities are especially important for that area. One of these activities is commercial fishing, although again the specific extent of connections to the BSAI crab fishery in particular are difficult to establish.

The BINMIC area is relatively small, but contributes disproportionately to the city and regional economy (Table 3.1-2). Again, those characteristics are part of what determined its borders. The BINMIC resident population is only 1,120 (1990 census), but there are 1,048 businesses in the area and 16,093 employees. The great majority of business firms are small, 85 percent have fewer than 26 employees, but accounted for only 30 percent of total BINMIC employment. Self-employed individuals (i.e., fishermen) are probably not included in these numbers. Employment by industry sector is displayed in Table 3.1-3.

Table 3.1-2 Relationship of Estimated BINMIC Population and Employment to Local, Regional, and State Population and Employment

Area	1990 Population	BINMIC as % of Total	1994 Employment	BINMIC as % of Total
BINMIC	1,120	100.00%	16,093	100.00%
City of Seattle	516,259	0.22%	490,632	3.28%
King County	1,507,319	0.07%	912,038	1.76%
Puget Sound	2,748,895	0.04%	1,363,226	1.19%
Washington State	4,866,692	0.02%	2,212,594	0.73%

Note: Percent of total reflects BINMIC's share of each area's total population and employment
Source: Economic Consulting Services 1997:14

Table 3.1-3 BINMIC Employment by Industry Sector

Industry Sector	Businesses	Employees	Percent of Total
Agriculture, Forestry, & Fishing	129	750	4.66%
Mining & Construction	83	1,169	7.26%
Manufacturing	216	5,322	33.07%
Transportation & Utilities	35	1,608	9.99%
Wholesale Trade	178	2,239	13.91%
Retail Trade	121	1,606	9.98%
Finance, Insurance, & Real Estate	43	306	1.90%
Services	233	2,604	16.18%
Government	10	489	3.04%
Total	1,048	16,093	100.00%

Source: Economic Consulting Services 1997:29

An important indicator of the importance of commercial fishing and other maritime activities is the availability of commercial moorage. As of 1994, more than 50 percent of all commercial moorage available in Puget Sound was located in Seattle, and of that, more than 50 percent was in the BINMIC area (representing 30 percent of all commercial moorage in the Puget Sound area). Thus, the BINMIC area is clearly important in terms of being an area where vessels (especially larger commercial vessels) are concentrated. The Port of Seattle has concluded that only the ports of Olympia and Tacoma at present provide a significant source of moorage in Puget Sound outside of Seattle. Port Angeles may build additional capacity at some point in the future. Olympia's facility was rebuilt in 1988. Some older moorage constructed of timber piling prior to 1950 is nearing the end of its useful life and will need to be replaced. On the other hand, it is expected that much of the private old timber moorage will not be replaced, so that overall moorage capacity will decline. In the Seattle area, there has also been a dynamic whereby commercial moorage had been converted to recreational moorage. Within the BINMIC area, recreational moorage within the UI Shoreline is prohibited altogether, because of the importance of commercial activity and the danger of interference from recreational moorage. The Port has concluded that it is unlikely that any new private commercial moorage will be developed (because of cost and regulatory regime) and is examining their options (Martin O'Connell Associates 1994). As previously mentioned, the Port is pursuing a program of repairing its facilities where economically feasible (when it can be fairly well assured of a steady tenant).

The BINMIC area is fairly well "built out." The BINMIC area contains 971 acres, divided into 806 parcels with an average size of 1.043 acres, but a median size of 0.207 acres. Thus there are many small parcels. Public entities of one sort or another own 574.8 acres (59 percent). The Port of Seattle is the largest landowner with 166 acres, while the city has 109 acres. Private land holders own 396 acres, of which only 19.45 acres were classified as vacant – 19.27 acres in 81 parcels as vacant industrial land and 0.18 acres in 2 parcels as vacant commercial land. An additional 200.76 acres were classified as "underutilized," meaning that it had few buildings or other improvements on it. This classification does not mean that the land may not be in use in a fruitful way (for instance, storage of gear or other use that is not capital intensive).

Economic Consulting Services (1997, Appendix C) lists 85 companies that have a processing presence in Washington State. Of these, over half (47) are located in Seattle, with many in the surrounding communities (Bellevue, Kirkland, Redmond). Of these 47, at least 18 are located within the BINMIC area, and the rest are located very near the boundaries of the BINMIC. Some examples of fairly large fishing entities that are located within the BINMIC (as well as elsewhere) are Trident Seafoods, Icicle Seafoods, Ocean Beauty

Seafoods, Peter Pan, Alaska Fresh Seafood, and NorQuest Seafoods. All demonstrate some degree of integration of various fishing industry enterprises.

The BINMIC area of Seattle displays the following characteristics, which indicate its important economic roles:

- significant component of, and plays a vital role in, the greater Seattle economy;
- integrated into local, regional, national, and multinational markets;
- key port for trade with Alaskan and the West Coast, Pacific, and Alaska fishing industries - and the Alaskan fishery is especially significant;
- Salmon Bay, Ship Canal, and Ballard function as a small port of its own but also support fishing and a wide range of other maritime activities - including recreation and tourist vessels and activities; and
- an area of concentration of businesses, corporations, organizations, institutions, and agencies that participate in, regulate, supply, service, administer, and finance the fishing industry.

General Community Level Ties to the BSAI Crab Fishery

The focus of this section is the contribution of the BSAI crab fishery to Seattle as a whole, rather than on a specific geographic focus. Unfortunately, here too most of the information available does not facilitate focusing on this issue with a fine resolution. Different sources address different partial aspects of this comprehensive question. Some discuss different scales of detail - local versus distant fisheries, crab versus other fisheries (groundfish, halibut, salmon, and so on), or fishing as a whole versus other maritime activity (shipping, for example). Some discuss different components of commercial fishing activity - harvest versus production, or one particular type of operation versus all others. Some concentrated on more confined, or more broadly regional, geographical areas. By collecting some of this material and piecing it together, however, a general level understanding of the overall contribution of commercial fishing to Seattle is possible.

Natural Resource Consultants (NRC) has compiled quite comprehensive accounts of commercial fishing activity by the Seattle and Washington state fleets (NRC 1986, 1999). They provide a brief historical narrative on the development of the various fisheries and then a more detailed summary of the status of fish stocks and historical harvest information. In 1986, the estimated ex-vessel value of the grand total of all seafood taken from local waters by Washington's local fleet was about $93 million (NRC 1986:18,19). Distant water fisheries, primarily in the Gulf of Alaska and the Bering Sea, yielded an estimated grand total of $290 million by 1,371 vessels with an aggregate crew of 6,088 (NRC 1986:28,33). The joint- venture fleet accounted for about $80 million (ex-vessel) of this, with about 81 vessels and 405 crew, with an additional 11 catcher processors accounting for another $25 million (ex-vessel) and about 330 jobs. In terms of weight or volume, 92 percent of the seafood harvested by Washington fishermen came from Alaskan waters, and only 7 percent from local waters. In terms of ex-vessel value, the Alaskan harvest was worth $283 million and local harvest $110 million (and other harvest $8 million). None of these general statements had changed to any appreciable degree by 1998/99, and Alaskan distant waters fisheries still provided 95 percent of the harvest for the Washington state fishing fleet (NRC 1999).

Most of the Alaskan catch was processed to some extent in Alaska by processing entities based in Seattle (i.e., either by mobile facilities or onshore facilities owned by Seattle-based entities). NRC states that there were about 130 seafood processing/wholesaling and 33 wholesale/cold storage companies in Washington in 1985, operating 250 primary processing and wholesale plants in Washington and 120 shore based or at sea in Alaska. Washington processing employment was 4,000 seasonally and in Alaska was 8,000, with half coming from Washington (NRC 1986:35-39).

A similar NRC study in 1988 found that Washington fishermen harvested about 80 percent (ex-vessel value) of their catch in distant waters, with 98 percent of that coming from Alaskan waters. About 72 Washington state vessels participated in the joint venture trawl fishery, directly employing about 360 people. There were also 43 catcher processors employing about 2,200 people, and 26 shore-based trawlers, employing about 130 people.

Turning to relatively more recent data, Chase and Pascall (1996) focus on the importance of Alaska as a market for Seattle region (Puget Sound) produced goods and services. They do so by identifying particular industrial sectors that generate the bulk of these economic impacts, but they do not locate these industrial sectors in terms of particular geographic locations within the region. In their discussion of the fisheries sector, Chase and Pascall indicate that only a fraction of the regional economy is based on fishing and seafood processing industries, but that these industry sectors are concentrated in several communities and rely heavily on North Pacific (Alaskan) resources. The communities that they single out are Bellingham, Anacortes, and the Ballard neighborhood of Seattle. They say that Seattle is the major base for vessels for various fisheries – groundfish (catcher vessels, catcher processors, motherships), halibut, crab, salmon, and others. There are numerous secondary processing plants in the region, and about 60 percent of the seafood harvested and shipped south for processing moves through the Port of Tacoma (Chase and Pascall 1996:23).

The relative value of Alaskan shellfish (crab, shrimp, etc.) for the Seattle fleet varies from year to year, but in 1994 was about 25 percent of the ex-vessel value of the Alaska/North Pacific commercial fishing harvest (Chase and Pascall 1996:26), which represented about 75 percent by harvest value, and 92 percent by weight, of all fish harvested by the Puget Sound fishing fleet (Chase and Pascall 1996:23 - citing ADF&G, NPFMC, NMFS). Since that time, crab harvests have declined considerably, however, so this percentage would now be smaller.

Other relatively recent work (Martin O'Connell Associates 1994) indicates the wide range of activities that the Port of Seattle supports and the web of support services that commercial fishing helps support, but it provides no measure of the contribution of the BSAI crab fishery to this support. Fishing activities are included in this study only to the extent that they are reflected in activities at Fishermen's Terminal. This would generally reflect Bering Sea and Gulf of Alaska catcher vessel activity but would also include a great number of other smaller vessels moored at Fishermen's Terminal. On the other hand, it would also include some Alaskan groundfish activity of similarly sized and somewhat larger vessels, and some factory trawlers. It would not include the activities of larger Alaskan groundfish vessels such as catcher-processor, mothership, and secondary processing activities. By their estimation, fishing activity at Fishermen's Terminal in 1993 generated 4,007 direct jobs (the majority of them crew positions), earning an average of $48,690 per direct job (total $195 million). Also, an additional 2,765 induced and indirect jobs were created. Fishing businesses also expended $145 million on local purchases of goods and services (Martin O'Connell Associates 1994:45-49). Again, this does not indicate the contribution of the BSAI crab fishery so much as it establishes that the local fishing/processing economy is densely developed. Also, if the estimates or models of vessel expenditures developed for operations using Fishermen's Terminal can be extrapolated to other vessels based in Seattle, an estimate of the contribution of the BSAI crab fishery may be possible.

A summary profile of the Puget Sound maritime industry, which includes commercial fishing, is included in Economic Development Council of Seattle and King County 1995 (Appendix A:39-49). Pertinent information has been abstracted here. The list of included businesses is quite long and is a good indicator of how far indirect benefits can spread:

> . . . cargo shipping, tugs and barges, commercial fishing and supply; ship and boat building; cruise ships; vessel design and repair; fueling; moorage; the fabrication and sale of marine gear such as electronics; refrigeration, hydraulics, and propulsion equipment; the operation

> of marinas, dry docks and boat yards; services provided by customs and insurance brokers and shipping agents; and maritime professional services including admittedly law, marine surveying and naval architecture (Appendix A:39).

It was estimated that in 1992 there were 30,000 jobs in the maritime sector within the four-county region, including 10,000 in commercial fishing, 7,000 in fish processing, 5,000 in marine recreation, and 3,900 in boat building and repair. Average wages were estimated at $24,000 for fish processors, $32,000 for ship and boat building and repair, and $50,000 to $80,000 for commercial fishing. The sector is one noted for providing entry-level positions for those with limited education and job skills, so that they can learn a high-wage job. Each job in this sector creates or supports one to two other jobs in the regional economy, and each dollar of sector output generates about one additional dollar in output from the rest of the economy.

Seattle offers the maritime sector, and the distant water fleet in particular, a "critical mass" of businesses that allows vessel owners and other buyers a competitive choice of goods and services. The same is true to a lesser extent of other regional ports, such as Tacoma. Efficient land transportation systems are also critical, and Seattle has good rail and truck linkages (and the Port of Seattle is working to improve them).

Although the maritime sector is an important one for the region, some of its components are currently experiencing some difficult times. Other regional communities (Anacortes, Bellingham, Port Townsend) as well as locations in Alaska (closer to the distant fishing waters) are working to develop port facilities to lure vessels so that they may gain the economic benefits of the associated support and supply business. Common sorts of projects are the improvement of shoreside access, building additional moorage, or work and storage capacity.

NRC revised some of their earlier work and added additional analysis focused specifically on the contributions of inshore Washington state (but also Alaska) processing plants to the Washington State economy (NRC n.d., 1997). The Washington inshore seafood processing industry purchased $859.5 million of raw material in 1991, $720.1 million from Alaska, and $139.4 million from Washington waters. Salmon accounted for 46 percent of the total value of these purchases, shellfish for 20 percent, groundfish for 19 percent, halibut for 11 percent, and other species for much less. The total finished product from all this raw material was worth $2.1 billion ($1.8 billion from the Alaskan raw material). Salmon accounted for $780 million of the final product's value, shellfish for $563 million, and groundfish for $482 million. "... inshore processors operating in Alaska and Washington account for more than 50 percent of the value of U.S. seafood exports" (NRC nd:4). For 1996, the total purchased was comparable at $877.2 million – 41 percent salmon, 20 percent shellfish, groundfish 15 percent, halibut 9 percent, herring 7 percent, and other species much less. The total finished product totaled $2.17 billion, $1.9 billion from Alaskan material. Salmon accounted for 35 percent, shellfish for 28 percent, and groundfish for 18 percent. Thus Alaskan shellfish is at least as important in terms of value of product as is groundfish for 1991-1996.

Expenditure patterns for Washington (and Washington-owned Alaskan) inshore plants were modeled in these NRC documents. Inshore plants expenditures average 46 percent for their raw materials (fish and shellfish), 16 percent for wages and benefits, 9 percent for processing materials, and 7 percent for tendering and other transportation costs. About 55 percent of these expenditures were made in Washington, 43 percent in Alaska, and 2 percent from other states. This is stated to include fish and shellfish purchased in Alaska from fishermen who homeport in Washington (NRC nd:9), and economic benefits were produced from these expenditures in direct proportion to their magnitude.

The estimated total economic output from primary and secondary processing activities for all seafood to the Washington state economy in 1991 was calculated to be $1.865 billion. This was the result of three main factors (in order of their significance in terms of contributions to economic benefits):

- A substantial portion of expenditures for raw material (fish) in Alaska is made to fishermen whose home ports are in Washington.
- The majority of administrative and sales functions of processing companies are carried out in Washington.
- A major portion of support industries (equipment and packaging manufacturing) is located in Washington.

In 1996 the Washington inshore seafood industry generated 32,837 full-time equivalent jobs (21,308 in Washington and 11,529 in Alaska) and $791 million of earnings impacts ($532 million in Washington and $259 million in Alaska). In terms of economic output, it contributed $1.9 billion to the Washington state economy and $1.2 billion to the Alaska state economy (NRC 1997). As noted earlier, these data underscore the interrelatedness of the economies of Alaska and Washington and, as has been seen through the sector profiles and the ties to particular communities, the ties between Seattle and specific Alaska communities. Companies based in Washington depend on Alaska fisheries for the great bulk of the raw materials processed in Washington, and residents of both states harvest Bering Sea resources. Also, as noted earlier, the corporate offices and sales outlets of the processing companies are located in Washington, as are most of the suppliers and support services for the industry.

Seattle, BSAI Crab Fishery Socioeconomic Issues and a Sector-Based Approach

As noted in the introduction to this section, Seattle is an analytic challenge, in terms of a socioeconomic description and a social impact assessment directly related to the BSAI crab fishery, because of its scale and diversity. Seattle is arguably more involved in the BSAI crab fishery than any other community, but from a comparative perspective, Seattle is arguably among the least involved of the communities considered. The sheer size of Seattle dilutes the overall impact of the BSAI crab fishery jobs and general economic contributions when viewed on a community scale, in contrast to Alaskan communities where such jobs and revenues are a much greater proportion of the total economic base of the community. This section has attempted to portray the complexities of the ties of the BSAI crab fishery to Seattle in terms of specific portions of the economy and on a geographically localized basis.

All of the BSAI crab fishery sectors are tied to Seattle in one way or another, although the magnitude and nature of these ties vary considerably between sectors. It is clear that Seattle, as a community is, from a number of different perspectives encompassing specific sector structures and geographically attributable industrial areas, engaged in and dependent upon the BSAI crab fishery. To avoid losing the importance of the fishery in the "noise" of the greater Seattle area, the association will be described in terms of the BSAI crab fishery industry sectors and their linkages to Seattle for the balance of this profile, rather than attempting an overall contextualization of the fishery and impact analysis within the metropolitan area.

Links to Specific Crab Fishery Sectors

In addition to looking at region, port-focused, and neighborhood-focused activities, a relevant way to examine the nature of Seattle's involvement with the BSAI crab fishery is to look at the nature of the links between Seattle as a community and the relevant individual sectors of the crab fishery. This type of information is specifically intended to provide a general level overview of dynamic relationships of Seattle to all of the relevant sectors, and to discuss the nature and degree of variation between sectors. Summary quantitative data on Seattle's engagement in the fishery is presented in the main body of this document. This section presents overview information on the individual sectors and draws primarily on existing secondary information, supplemented by very limited fieldwork.

Processing

The following discussion is divided into shore-based processing and floating processor discussions. In terms of social impact assessment, the relative mobility, or lack thereof, is important in terms of ties between Seattle and specific communities of operation.

Shore-Based Processing

As noted in earlier NPFMC groundfish social impact assessment documents, while the larger shoreplants that process Alaska groundfish are located in Alaska, all have multi level ties to Seattle. The same is also true for crab. All of the larger facilities are administered from corporate headquarters in Seattle, which is the center for corporate and financial services. Thus, Seattle is the community where business decisions are made, or at least deliberated, for the Alaska shore plants (setting aside, as for other sectors, the complicating issue of degrees of foreign ownership that vary by entity). This distinction should not be carried too far, however, as plant managers resident in the communities clearly have a role in corporate decision making, and executives based in Seattle also spend time in the Alaskan communities where their plants are located. Nonetheless, the role of "Seattle" in the decision-making process, and the profound influence that process has in the Alaska shoreplant communities, is well recognized in the communities themselves.

In addition to being a decision-making and important administrative support community for the shoreplants, Seattle is also the location of some direct employment associated with the processing companies. While administrative shoreplant sector employment in Seattle consists of relatively few jobs compared with positions at the plants themselves, the Seattle component has a greater proportion of jobs within the upper compensation range. The day-to-day management of the labor force of shoreplants in Unalaska/Dutch Harbor tends to consist of year-round community residents (though these individuals were initially recruited from elsewhere). Managers of other shoreplants tend to maintain homes outside of Alaska (many in the Seattle area), even though most spend the majority of their time in Alaska and may well qualify as Alaskan residents. The bulk of the labor force for shore plants consists of the maintenance/support and the processing crews (although the two may well overlap). The former tends to be employed on a more year-round basis and thus tends to be more of an Alaska resident labor force. The latter tends to have a higher turnover and, with a significant percentage of the workforce still coming from the Pacific Northwest and the greater Seattle area in particular, employment ties to Seattle are still important for Bering Sea and Gulf of Alaska community-based operations. As discussed in the Inshore/Offshore-3 analysis document (NPFMC 1998a), non-Alaskan employees accounted for approximately 80 percent of the total groundfish plants workforce, but this figure varies widely by plant, with the range encompassing less than 10 percent to almost 40 percent of the workforce being Alaska residents of any one operation. A similar pattern is assumed to hold for all large crab processing plants, due to common ownership if not combined operations. While it is important to recall that there are significant differences between "residence" and the location of jobs, as discussed in earlier documents, there are impacts derived from the physical location of jobs more or less independent of the formal residency status of the workforce. Specific break-outs are not available; however, based on interviews with plant managers, it may be safely assumed that the bulk of the non-Alaska jobs comes from the Pacific Northwest region, and a disproportional number of those from Washington State and the greater Seattle area.

Interviews with processing personnel conducted for the NPFMC groundfish and crab license limitation and IFQ social impact assessment in the mid-1990s (IAI 1994) indicate that a substantial portion of the wages paid to workers in Alaskan plants were used to help support extended families outside of the region. While quantitative data do not exist regarding this type of wage flow, it is one more indication (particularly given a general knowledge of the industry) of the ties between the shoreplants and Seattle (and the greater West Coast area).

In terms of support services for the crab processors, Seattle would appear to play a role similar to that it has for several of the other sectors. Processors do purchase goods and services in their "host communities" but this is highly variable by processor and community. Among the major processor sites, Unalaska/Dutch Harbor has the highest degree of development of local support services, but it is still the case for these communities that materials and supplies needed for the operation of the plants are not manufactured locally, and a great deal of these are shipped out of the Seattle area, given that Seattle is both the headquarters of the individual companies and the nearest major port in the Lower 48. With the maturation of the fishing industry, the growth of local infrastructure and support services, and the overall changes in Unalaska/Dutch Harbor, the relationship between Seattle and Unalaska/Dutch Harbor has changed somewhat. It is no longer common to hear people express their recognition of the strong industry ties between Unalaska/Dutch Harbor and Seattle by saying that in some respects Unalaska is a "suburb of Seattle," as was not uncommon in the mid-1980s. The center-periphery relationship is perhaps more complex than ever for this sector. For the Bering Sea portion of the fishery, Seattle is the center of corporate operations; Unalaska/Dutch Harbor is the center of processing operations and the interdependencies are many and complex. A similar pattern applies to Kodiak for the Gulf of Alaska component of numerous Alaska federal (and state) waters fisheries. Further, while there is some variation in this pattern with smaller processors in other communities, plants in the other key Alaskan BSAI crab ports (St. Paul, King Cove, Adak, Akutan, and floaters associated with ports) are all operated by firms managed out of Seattle.

In terms of expenditure patterns for crab processors in relation to the Seattle area, there are several main areas to consider. First, the processors buy crab from the catcher vessel fleet and the crab fleet is primarily based in Seattle and the Washington inland waters region, with a significant minority from Alaska. This being the case, crew compensation as a function of processing expenditures for Alaska crab disproportionately accrue to Seattle and the Pacific Northwest as a region. Second, expenditures for support services would appear to be primarily directed toward the Seattle/Pacific Northwest area. Third, corporate finances would appear to flow through Seattle, so the community would derive economic benefits from these transactions. In short, crab processing expenditures are important to Seattle when examined on a sector basis. The localization of such expenditures within Seattle, however, is less clear.

In terms of fiscal impacts to Seattle, clearly the differences of scale between Seattle and the Alaska crab processing communities make a great difference in relative significance of the sector. Beyond this, there are different types of fiscal inputs/taxation relationships between the companies and communities based on where the actual "work" or "industry" of processing takes place. In the crab-dependent communities themselves, the processors, as described in the Alaska communities discussion, provide a basic fiscal underpinning for local government in the form of various business, property, sales, and fish taxes. Seattle, not being the "industrial" center of the processing, has a different relationship to the industry.

Floating Processors

Floaters, as a sector, have strong ties to the Seattle area. All Bering Sea crab floater operations are headquartered in Seattle, and the floaters themselves are managed and supported principally out of Seattle. Hiring is done from Seattle and, while we have no statistical breakdown of the labor force, many come from the Lower 48 and most are reportedly from the Pacific Northwest. All, and especially floaters with a CDQ group partner, have strong initiatives to hire Alaskans, and especially Alaskans from Western Alaska.

Given that the operations are headquartered in Seattle, the community acts as a corporate center for this industry sector, in terms of corporate and financial services support. There are a few administrative/office positions for each company in Seattle, but these account for less than 10 percent of the workforce in every case, even at the low end of operational range staffing aboard the vessels.

In terms of fiscal impacts to communities, like catcher processors, floaters are subject to the resource landing tax in Alaska, so they developed a different fiscal relationship to Alaska communities. Individual operations varied the location and number of offloads, so there was variability between operations in this regard. Some floaters, of course, are tied up in port when processing and so function much as a shoreplant.

The catcher vessel fleet for floaters mirrors that of the fleet as a whole, and tends to have Seattle owners and to be maintained in the Seattle/Pacific northwest region. Some vessels have California or Alaska owners, or may have some connections with Oregon. Regardless of ownership or "home port" designation, many of these catcher vessels normally remain in Alaskan waters between crab seasons, unless there is a compelling reason for them to go to Seattle. Some participate in other fisheries.

Catcher-Processor Sector

Almost all crab catcher processors participating in the relevant BSAI crab fisheries have been owned by residents of the greater Seattle area, as shown in Table 3.1-4. This is true of those with non-qualified landings (as discussed in Section 3.4.4.2 and shown in Table 3.4.4-15 in the main body of this EIS) as well as those with qualified landings. The exceptions consist of basically two qualified catcher processors from Kodiak, one currently with an Anchorage address, and two non-qualified catcher processors from Newport. Thus, this sector is markedly concentrated geographically. Seattle area non-qualified crab catcher processors outnumber qualified vessels by about 3 to 1 (25 to 8), which reflects the trend over time (1991-2000) for catcher-processor numbers in BSAI crab fisheries to decline. As may be expected, the decline on participation for crab catcher processors that would not be qualified under the proposed rationalization program has been much greater than for vessels that would be qualified. Seattle area-owned crab catcher processors participate primarily in the Bristol Bay red king, Bering Sea opilio, and Bering Sea tanner fisheries. The Kodiak vessel historically participates in these fisheries as well as the Adak king crab fisheries. BSAI crab fishery catcher processors have historically (1991-2000) harvested 10.8 percent of the qualified crab landings, 28.0 percent of the non-qualified crab landings, and 13.0 percent of the total (qualified plus non-qualified) landings. Given these circumstances, it is clear that direct impacts to the catcher-processor sector that could result from rationalization will accrue almost exclusively to the Seattle-Tacoma area.

Table 3.1-4 Annual Average Number of Catcher Processors by Relevant BSAI Species Crab Fishery with Seattle-Tacoma CMSA Ownership, 1991-2000

Data	Number of Vessels Qualified as Crab Catcher Processors Owned by Residents of Seattle-Tacoma CMSA	Number of Vessels Qualified as Crab Catcher Processors Owned by Residents of All Areas	Seattle-Tacoma Ownership as a Percentage of Total Ownership
Bristol Bay Red	6.0	6.9	87.0%
Bering Sea Opilio	8.6	9.9	86.9%
Bering Sea Tanner	6.7	7.3	91.8%
St. Matthew Blue	1.4	1.9	73.7%
Adak Red	0.3	1.2	25.0%
Adak Brown	0.2	1.2	16.7%
Pribilof Red	0.3	0.3	100.0%
Pribilof Brown	0.3	0.3	100.0%
Dutch Harbor Brown	0.1	0.1	100.0%

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Catcher Vessels

As shown in Table 3.1-5, the ownership of BSAI crab vessels is highly concentrated in the greater Seattle area. Over the 1991-2000 era, 163.2 vessels owned by area residents participated on an annual basis in all nine BSAI crab fisheries being considered for rationalization. By way of comparison, the figure for Kodiak, the Alaska community with the greatest harvester participation was 48.1 (the next highest Alaska figure was 9.6 for Homer); the figure for Newport, the Oregon community with the greatest participation was 11.1. These figures show the predominance of the Seattle area fleet in the BSAI crab fisheries.

Table 3.1-5 Average Number of Relevant BSAI Species Crab Vessels in Various Fisheries Categories, by Fisheries Category, Owned by Residents of the Seattle-Tacoma CMSA Area, 1991-2000

	Number of Seattle-Tacoma CMSA Owned Vessels	Total Number of Vessels, All Areas	S-T CMSA Ownership as a percentage of Total Vessels
Bristol Bay Red King Crab	145.9	256.8	56.8%
Bering Sea Opilio Crab	138.4	235.8	58.7%
Bering Sea Tanner Crab	139.3	243.8	57.1%
BBR/BSO/BST Crab group	162.0	280.9	57.7%
Other 6 PMA Crab group	81.6	149.4	54.6%
All 9 PMA Crab group	163.2	290.8	56.1%
Non-Qualified PMA Crab (all 9)	26.1	62.1	42.0%
"Overlap" Vessels, all 9 PMA Crab	9.7	19.8	49.0%
All Fisheries other than PMA Crab	80.5	165.4	48.7%

Notes: BSAI crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
BSAI crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
"Overlap" vessels have both qualified and non-qualified BSAI crab fisheries landings but are counted only once in combined groups.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table 3.1-6 displays information on the relative importance of Seattle-Tacoma CMSA-owned vessels in the relevant crab fisheries compared to the total catcher vessel harvest. As shown, Seattle-Tacoma MSA-owned vessels are heavily engaged in the fishery, accounting for 63 percent of the total annual value of harvest in the nine fisheries being contemplated for rationalization. In terms of dependency internal to the Seattle-Tacoma crab fleet, the BSAI crab species proposed for rationalization account for about 82 percent of the harvest value for these vessels over the 1991-2000 period.

Table 3.1-6 Average Annual Value of Harvest for Relevant BSAI Species Crab Vessels in Various Fisheries Categories, by Fisheries Category, for Vessels Owned by Seattle-Tacoma CMSA Residents, 1991-2000

	Seattle-Tacoma CMSA Vessel Harvest Value	Fishery Values as a Percentage of Seattle-Tacoma CMSA (only) Totals	Total Vessel Harvest Value, All Areas	Seattle-Tacoma CMSA as a Percentage of Total Harvest Value
Bristol Bay Red King Crab	$21,857,948	12.6%	$35,263,972	62.0%
Bering Sea Opilio Crab	$89,969,977	52.1%	$139,393,635	64.5%
Bering Sea Tanner Crab	$13,163,108	7.6%	$20,721,675	63.5%
BBR/BSO/BST Crab group	$124,991,034	72.3%	$195,379,282	64.0%
Other 6 PMA Crab group	$16,168,524	9.4%	$28,726,520	56.3%
All 9 PMA Crab group	$141,159,558	81.7%	$224,105,802	63.0%
All fisheries other than PMA Crab	$31,632,523	18.3%	$52,585,352	60.2%
Total ALL Fisheries	$172,792,081	100.0%	$276,691,153	62.4%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
BSAI crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Summary of Recent Community Fishery IFQ/Co-op Rationalization Experience and Implications for Likely Crab Rationalization Impacts

While no quantitative studies focusing on Seattle-specific community/social impacts are known, as the home of both substantial catching and processing capacity for the halibut and sablefish fisheries, it is assumed that these IFQ programs were essentially neutral for Seattle as a community. It may be the case, however, given the more geographically diversified nature of the halibut and sablefish fleets compared to halibut and sablefish processing capacity that there was some net loss to Seattle compared to smaller communities that serve as homeports to the scattered fleet. While clearly some shifts in relative advantage did take place between sectors and between individual entities, however, when examined on a community level and taking into account the presence of all sectors, these shifts would not appear to rise to a level of significance.

In terms of experience with co-op based rationalization under the AFA, different Seattle-based sectors fared quite differently, although some kinds of benefits are thought to have occurred across the board. The major impacts, and their applicability to potential outcomes of crab rationalization may be summarized as follows.

<u>Shore-Based Processing</u>

- Under the AFA, there was effectively an increase in volume (as a result of quota allocations to the associated catcher vessel co-ops, away from the offshore sector), but this was partially offset in the short term by compensation to the offshore sector. This is a complicating factor in the analysis of rationalization-specific impacts and would not occur under crab rationalization.

- Employment and various other forms of activity of the sector took place primarily in the Alaska processing communities, but ownership-derived economic benefits accrued to Seattle. Despite this significant accrual, there are not Seattle community level impacts arising from AFA-related changes to this sector.

Motherships

- In general, the utility of mothership experience under AFA co-op conditions to potential impacts under the crab rationalization conditions is limited, due to the type of groundfish orientation of the AFA mothership fleet and the lack of overlap with analogous crab operations. Essentially, there is no mothership sector in the crab fishery in the same sense that there is in the groundfish fishery.

- This sector did experience AFA-related ownership changes, but ownership remains concentrated in Seattle.

- A major structural change resulting from AFA was the splitting off of motherships into their own sector with their own allocative pool separate from the offshore catcher-processor sector. While motherships are no longer in direct competition with catcher processors, the quota assigned to motherships was somewhat less than recent harvest levels. This is not an experience generalizable to the crab rationalization context, other than the fact that some sectors may end up with less than current quota share.

- The catcher vessels associated with the three entities in this sector were placed into a single co-op, and there has been movement of catcher vessels between entities within the co-op. This is a quite different situation than seen in the onshore sector, where vessels of competing entities are in separate co-ops and there are obstacles to free movement of vessels between co-ops. This situation does provide some insight into potential crab rationalization alternative-linked impacts, where co-op design in this sector varied from, and has had quite different outcomes than, co-ops in the other rationalized sectors.

- The three entities in this sector were structured very differently prior to the AFA and continue to have different adaptations post-AFA making sector generalizations difficult. It is clear, however, that whatever impacts have been experienced by individual operators, or the sector as a whole, they have not resulted in community level impacts for Seattle. This is likely to be the case for similar rationalization efforts in crab.

Catcher Processors

- Under the AFA, by design, catcher processors experienced a significant reduction in allocated quota and a reduction in the overall sector fleet. This, of course, colors any attempt at drawing parallels between likely outcomes for catcher processors under AFA co-ops and the crab rationalization alternatives. A general point of divergence in the structure of the two fishery types is that catcher processors represent a much smaller proportion of the crab fishery than they do of groundfish fishery, and this tends to limit application of experience in the groundfish context to the potential crab context.

- Loss of access by the sector was mitigated to a degree by compensation for the planned reductions under the AFA. Employment losses, estimated at between 1,500 and 2,000 jobs, have not been regained. This is a large number within the fishery, when contrasted to the participant base. For example, the entire population of Unalaska/Dutch Harbor is 4,300 persons. Job loss was not localized in any particular community, as hiring patterns differed from entity to entity, workers came from a wide region, and the work aboard the mobile vessels did not take place "in" a particular community or communities. The effect of employment loss varied from firm to firm. One large catcher-processor firm estimated their overall loss at between 600 and 700 jobs. With a 30 to 35 percent normative turnover in crew positions per year, this yielded a net displacement of around 400

individuals. Compensation packages were offered to displaced employees, and an estimated 25 to 30 percent of key crew has been rehired as remaining positions opened through attrition. This type of wholesale, immediate employment loss is not anticipated under the crab rationalization alternatives and makes comparisons between the two programs for the catcher-processor sector problematic.

- There have been significant ownership changes within the sector as a result of the AFA, with American ownership interest increasing by design. The CDQ portion of ownership of this sector has increased significantly post-AFA, which has increased direct CDQ entity involvement with the fishery. Again, this is a set of circumstances that is quite different from the crab rationalization alternatives; however, increased CDQ group investment is clearly one potential outcome of a rationalized crab fishery.

- One major positive impact on the sector under AFA co-op conditions has been increased stability. Inefficient vessels were removed from the fleet, and those remaining are apparently on much more solid economic footing than was the case prior to the AFA. This has had beneficial impacts to both public and private entities providing services to the fleet. This type of outcome is likely under the crab rationalization alternatives, although it will occur through a different mechanism or process. Under the AFA, this reduction in this sector was accomplished through legislative means and was immediate; under crab rationalization (with the exception of the buy-back program) decapitalization and consolidation would occur through individual operational decision making in response to market conditions.

- Despite the fact that impacts to the sector resulting from the AFA were immediate and drastic they were not significant in terms of Seattle community level impacts. It is expected that this would be true for the situation under the crab rationalization as well – no matter how drastic at the operational level, impacts would not be significant at the community level.

Catcher Vessels

- One of the dramatic changes for the catcher vessel sector under AFA-driven rationalization was the formation of co-ops. This fundamentally changed the structure of the catcher vessel business and altered the relationship between catchers and processors. Former competitors are now in the same co-operative structure, and deliveries (and catcher vessel efforts) are structured to increase efficiencies in processing. Catcher vessel co-ops have tended to hire business managers that work with the processor to coordinate the fleet, and this has increased information flow between catchers and processors to a level that did not occur in the past due to competitive/business information tensions between the two sectors. This same type of outcome would be anticipated under the crab rationalization alternatives.

- How the AFA has influenced the trend in recent years of processing entities acquiring increasing ownership and/or control of catcher vessels is unclear and will take a longer period of time to sort out as entities adapt to changed conditions under the AFA. Given this uncertainty, there are not clear indications based upon this experience of how ownership patterns would change in the immediate future under the crab rationalization alternatives, but caps are designed to limit the impacts of this issue. There has been some ownership change of catcher vessels under the AFA, but these changes have not been extensive.

- Compensation structures within the sector have changed to a degree under AFA rationalization. Payment from processors to vessels is reported to be more based on the value of the finished product than in the past. There is also some indication that in at least a few instances crew compensation has

gone away from a traditional crew share format to a wage labor or salary format as a result of different ownership structure and/or changes in the risk/uncertainty environment under the AFA. This is a possible outcome under crab rationalization as well.

- Catcher vessel asset value has increased under AFA co-ops. At the same time, there has been an effective loss in flexibility in business operations due to the impediments to free movement under the co-op system. How applicable this is to crab rationalization will depend on the final structure of the co-ops.

- Leasing of quota, and the accompanying retirement or sidelining of excess capital within the shoreside co-ops, has not taken place to the degree that many predicted. Vessels have remained protective of their catch history, and protective of continuing to accrue catch history. Of the four vessels that are known to have leased quota and that are cited in the AFA Report to Congress (NPFMC 2002), two moved between co-ops, one was purchased by co-op members and had its quota share divided among the other vessels, and one leased quota in the Bering Sea and concentrated on operations in the Gulf of Alaska. (The pattern is very different for catcher vessels that prior to the AFA delivered to the catcher-processor fleet. All of these vessels have leased their quota to the catcher-vessel fleet.) Whether this less-than-anticipated consolidation would hold true for crab rationalization depends on individual vessel owner decision making.

- Another major structural change within the catcher vessel sector has been the cooperation seen under the Intercooperative Agreement. This has led to coordination between co-ops on both the primary and the sideboard species and areas, as well as to a "co-management" approach to data collection to support federal management of the fishery. It is expected that rationalization of the crab fishery would continue the trend of coordination across fisheries.

- AFA has slowed the fishery for the catcher vessels and has arguably made the fishery safer for owners and crews as it is now easier to make decisions to avoid extreme weather, sea, or other unsafe conditions. The short time that has passed since the AFA went into effect does not allow a statistical evaluation of this issue, but anecdotal evidence would indicate that a reduction of injuries has occurred. A similar outcome for the crab fishery under the rationalization alternatives is anticipated, and benefits would likely be even greater because crab fisheries are shorter (meaning a narrower "have-to-go-out" window), the vessels are often smaller, and the weather can be just as extreme if not more so during crab seasons than during groundfish seasons.

- In terms of social impacts on specific communities, the catcher vessel fleet is too dispersed for these generally beneficial impacts of AFA to be felt at the community level in Seattle. This would hold true for crab rationalization as well.

In sum, Seattle-based sectors experienced a variety of changes under previous North Pacific fisheries IFQ and co-op-oriented rationalization programs. The nature, magnitude and direction of the social impacts of these programs varied between individual entities and sectors, but Seattle cannot be said to have experienced social impacts on the community level, due to the size and complexity of the community itself as well as the engagement of the community with all of the major sectors, i.e., where relative losses in one sector are offset by relative gains in another. This situation is quite unlike the participating Alaska communities profiled, where a much greater degree of local asymmetry of engagement by sector exists. The same outcome may be anticipated for the crab rationalization alternatives. In terms of likely community level impacts than may result from regionalization, it is not anticipated that Seattle as a community would experience any significant change. Individual Seattle-based operations, if locked into a higher cost environment than competitors in an

otherwise rationalized fishery, may have to adopt somewhat different strategies in order to make some plant level operations competitive in the new environment.

Differential Impacts of the Three Rationalization Alternatives at the Community Level

As summarized above, for Seattle the engagement in the BSAI crab fishery is based upon multiple ties to all of the sectors involved in the fishery. Beneficial or adverse impacts to the community of Seattle deriving from the different rationalization alternatives result from the differential outcomes for all of these activities.

Each of the rationalization alternatives have identical provisions regarding increased allocations to the CDQ program (inclusion of additional species and an increase in the included species set-aside from 7.5 to 10 percent of the total allocation), creation of captain's harvest quota shares (3 percent of the TAC), and a community development allocation to Adak (10 percent of the WAI golden king crab allocation). Each of these provisions are directed toward fostering beneficial community or social impacts for at least some groups or areas. Seattle would not benefit from CDQ program increases. The creation of captain's shares would benefit a number of residents of Seattle, but this would not be significant on a community level. The Adak community allocation would not be significant for the community of Seattle.

Regionalization is a feature of the three-pie alternative and the IFQ alternative, but is not a part of the cooperative alternative. Regionalization is explicitly designed to create beneficial community or social impacts for at least some groups or areas. The north/south region designation was designed primarily to benefit the Pribilofs, while the west region designation in the WAI golden king crab fishery was designed primarily to benefit Adak. These regional designations would not result in substantial impacts to the community of Seattle. As Seattle is home to a number of entities that operate in the different regions, it is assumed that gains and losses from regional protections would be a zero sum game from Seattle's perspective.

Additional community protection features of a "cooling off" period and a right of first refusal on transfer of processing quota shares are a part of the three-pie alternative (and are not a part of any other alternative). Eligible communities (those that had 3 percent of processing activity for covered species) would be assured that during the 2-year "cooling off" period processing quota would not be moved out of the community. Subsequent transfers would be subject to a right of first refusal that would allow an eligible community (through its CDQ group or another community group, if a CDQ group were not present) to obtain ownership and control over processing quota to retain local processing activity. Due to an absence of processing activity, these provisions are not relevant to Seattle itself, but they would limit the abilities of Seattle based entities to maximize the benefits of rationalization by providing impediments to consolidation.

The rationalization alternatives also differ on the ability of communities to obtain harvest quota share. Under the three-pie and IFQ alternatives, CDQ groups, or other community groups if a CDQ group is not present, in eligible communities (again, those with 3 percent or more of processing activity for covered species during the qualification period) would be able to purchase harvest quota share due to a waiver of sea time requirements that would otherwise prevent such purchases. By design, the ability to obtain harvest quota share could result in beneficial community and social impacts through communities becoming more directly engaged in the fishery. Again, these provisions would not be relevant for the community of Seattle itself.

Another potentially distinguishing feature of the rationalization alternatives from a community or social impact perspective is the ability of harvesters to form co-ops under the three-pie and cooperative alternatives (but not under the IFQ alternative). For Seattle, this ability (or lack thereof) would not appear to result in significant beneficial or adverse impacts given its current nature of engagement that spans all of the participating sectors.

4.0 CDQ REGION AND PROGRAM EXISTING CONDITIONS

The CDQ region differs from the Alaska and Pacific Northwest communities profiled by the nature of its engagement with and dependence upon the BSAI crab fisheries. The communities within this region primarily engage in the fishery through the auspices of the program rather than through historic participation in the fishery, so the focus on this section is the program itself rather than a characterization of the many communities in the region.[37]

4.1 INTRODUCTION

The western Alaska CDQ program was established to enable residents of rural communities in western Alaska to participate in the fisheries off their shores in a way that will bring significant economic development to the Bering Sea region. Originally involving only the pollock fishery, the program in recent years has expanded to become multispecies in nature, encompassing crab and other non-groundfish fisheries as well additional groundfish species.

The CDQ program is a federal program that allocates a portion of the TAC/GHL for federally managed Aleutian Island and Bering Sea species to eligible communities in western Alaska. The CDQ program includes such species as pollock, Pacific cod, Atka mackerel, flatfish, sablefish, and other groundfish, along with halibut, and crab. Currently, the CDQ program is allocated portions of the groundfish fishery that range from 10 percent for pollock to 7.5 percent for most other species. The CDQ program was granted in perpetuity through the Magnuson-Stevens Act authorized by the U.S. Congress in 1996. The State of Alaska is responsible for the administration and monitoring of the program. The State administers the program jointly through the Alaska DCED (the lead agency) and the ADF&G.

Sixty-five Alaska Native Claims Settlement Act (ANCSA) villages near the Bering Sea have established eligibility under federal and state regulations. These villages formed six non-profit CDQ groups: APICDA; Bristol Bay Economic Development Corporation (BBEDC); Central Bering Sea Fishermen's Association (CBSFA); Coastal Villages Region Fund (CVRF); Norton Sound Economic Development Corporation (NSEDC); and Yukon Delta Fisheries Development Association (YDFDA). The groups have established partnerships with fishing corporations. Local hire and reinvestment of proceeds in fishery development projects are a required part of the program.

In recent years the program has provided more than 1,000 jobs annually for region residents. Yearly wages have exceeded $8 million. This program has also contributed to infrastructure development projects within the region as well as loan programs and investment opportunities for local fishermen.

Reports summarizing and/or reviewing the activities of the CDQ program have been prepared for several purposes (NPFMC 1998; NRC 1999; DCED 2001; NMFS 2001a), and the existing conditions portion of this regional profile is largely abstracted from the most recent of these documents, the Steller Sea Lion Protection Measures SEIS (NMFS 2001a). In addition, each of the CDQ groups files a management plan with the State when they apply for their requested share of the overall CDQ allocation. Each group also files quarterly reports that detail their activities and tracks their progress in relation to the goals they have set in their management plans. The State can adjust the percentages awarded to each group from one allocation period to the next, based on the State's evaluation of various factors – documented need, adequacy of the proposed plans to use the requested allocation to meet those needs, past performance, and perhaps others.

[37] This section is based on information derived from a number of sources, but much credit is due to Northern Economics for their work in this area on the Steller Sea Lion Protection Measures SEIS (NMFS 2001a).

CDQ Allocations and Harvest

In 1991, the NPFMC recommended to the Secretary of Commerce that a fishery CDQ program be created. The purpose of the CDQ program was to extend the economic opportunities of the productive fisheries in the Bering Sea and Aleutian Islands (especially pollock) to small, rural communities in proximity to these valuable living marine resources. As initially envisioned, the proposed program set aside 7.5 percent of the Bering Sea and Aleutian Islands' annual TAC for Alaska pollock for allocation to qualifying rural Alaskan communities. The program was initially proposed to run for a period of 4 years, lasting from 1992 through 1995 but was subsequently extended for an additional 3 years, carrying it through 1998. In subsequent actions, a CDQ program for BSAI halibut and sablefish was implemented in 1995. A CDQ program for some BSAI crab species was implemented in 1998, and the multispecies groundfish CDQ program was implemented in late 1998. The NPFMC also extended the pollock CDQ allocations permanently by including pollock in the multispecies groundfish CDQ program. The AFA of 1998 increased the pollock allocation for the CDQ program to 10 percent of the annual TAC.

Under the current regulations all groundfish and prohibited species caught by vessels fishing for CDQ groups accrue against the CDQ allocations and none of the groundfish or prohibited species caught in the groundfish CDQ fisheries accrue against the non-CDQ apportionment of the TAC or prohibited species catch limits. The CDQ groups are required to manage their catch to stay within all of their CDQ allocations. The CDQ allocations recommended by the State for 2001-2002 are displayed in Table 4.1-1. In 2001, these percentages represented approximately 185,000 metric tons of groundfish (Table 4.1-2).

CDQ Communities

The purpose of the CDQ program is to facilitate the participation of Bering Sea and Aleutian Islands community residents in the Bering Sea/Aleutian Island fishery, as a means to develop local community infrastructure and increase general community and individual economic and social well-being. CDQ communities are predominantly Alaska Native villages, as shown in Table 4.1-3. Alaska Native residents comprise 86.8 percent of the combined total population of all CDQ communities. They are remote, isolated settlements with few natural assets with which to develop and sustain a viable diversified economic base. As a result, economic opportunities have been few, unemployment rates have been chronically high, and communities (and the region) have been economically depressed.

While these communities border some of the richest fishing grounds in the world, they have largely been unable to exploit this proximity. The full Americanization of the Bering Sea/Aleutian Island fisheries occurred relatively quickly. However, the very high capital investment required to compete in these fisheries precluded small communities from participating in their development. The CDQ program serves to ameliorate some of these circumstances by extending an opportunity to qualifying communities to directly benefit from the productive harvest and use of these publicly owned resources.

Table 4.1-1 CDQ Allocation Percentages by Species and Group, 2001-2002

Species	Allocation (Percent)						
	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA	Total
Crab							
Bristol Bay Red King	18%	18%	10%	18%	18%	18%	100%
Norton Sound Red King	0%	0%	0%	0%	50%	50%	100%
Pribilof Red & Blue King	0%	0%	100%	0%	0%	0%	100%
St. Matthew Blue King	50%	12%	0%	12%	14%	12%	100%
Bering Sea *C. Opilio*	10%	19%	19%	17%	18%	17%	100%
Bering Sea *C. Bairdi* Tanner	10%	19%	19%	17%	18%	17%	100%
Halibut							
4B	100%	0%	0%	0%	0%	0%	100%
4C	10%	0%	90%	0%	0%	0%	100%
4D	0%	26%	0%	24%	30%	20%	100%
4E	0%	30%	0%	70%	0%	0%	100%
Sablefish & Turbot							
Sablefish, Hook & Line – AI	15%	20%	0%	30%	20%	15%	100%
Turbot – AI	16%	20%	5%	21%	20%	18%	100%
Sablefish, Hook & Line – BS	15%	22%	18%	0%	20%	25%	100%
Turbot – BS	20%	22%	7%	15%	15%	21%	100%
Pacific Cod	16%	20%	10%	17%	18%	19%	100%
Pollock							
Bering Sea/ AI/Bogoslof	14%	21%	4%	24%	23%	14%	100%
Atka mackerel							
Eastern	30%	15%	8%	15%	14%	18%	100%
Central	30%	15%	8%	15%	14%	18%	100%
Western	30%	15%	8%	15%	14%	18%	100%
Yellowfin sole	28%	24%	8%	6%	7%	27%	100%
Flatfish							
Other Flats	25%	23%	9%	10%	10%	23%	100%
Rocksole	24%	23%	8%	11%	11%	23%	100%
Flathead	20%	20%	10%	15%	15%	20%	100%
Other Species	18%	20%	10%	16%	16%	20%	100%
Other Rockfish							
O. Rockfish – BS	25%	21%	7%	12%	13%	22%	100%
O. Rockfish – AI	23%	17%	7%	18%	17%	18%	100%
Arrowtooth	24%	22%	9%	11%	10%	24%	100%
Pacific Ocean Perch Complex							
True POP-BS	18%	21%	7%	18%	18%	18%	100%
Other POP-BS	23%	18%	8%	16%	16%	19%	100%
True POP – AI							
Eastern	30%	15%	8%	15%	14%	18%	100%
Central	30%	15%	8%	15%	14%	18%	100%
Western	30%	15%	8%	15%	14%	18%	100%
Sharp/Northern-AI	30%	15%	8%	15%	14%	18%	100%

Species	Allocation (Percent)						
	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA	Total
Short/Rougheye – AI	22%	18%	7%	18%	17%	18%	100%
Sablefish, Trawl – AI	24%	23%	9%	10%	10%	24%	100%
Sablefish, Trawl – BS	17%	20%	10%	17%	18%	18%	100%
Prohibited Species							
Halibut	22%	22%	9%	12%	12%	23%	100%
Chinook salmon	15%	21%	4%	23%	23%	14%	100%
Other salmon	15%	21%	5%	23%	22%	14%	100%
Opilio	24%	22%	9%	11%	10%	24%	100%
C. Bairdi – Zone	26%	24%	8%	8%	8%	26%	100%
C. Bairdi – Zone 2	23%	22%	9%	12%	11%	23%	100%
Red King Crab	29%	23%	8%	7%	7%	26%	100%

Source: DCED 2001

Table 4.1-2 CDQ Allocation Amounts in Metric Tons by Species and Group, 2001

CDQ Species	2001 TAC	2001 CDQ Allocation	CDQ Group Allocation Amounts					
			APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA
BS FG Sablefish	780	156	23	34	28	0	31	39
AI FG Sablefish	1,875	375	56	75	0	113	75	56
BS Sablefish	780	59	10	12	6	10	11	11
AI Sablefish	625	47	11	11	4	5	5	11
BS Pollock - total	1,400,000	140,000	19,600	29,400	5,600	33,600	32,200	19,600
AI Pollock	2,000	200	28	42	8	48	46	28
Bogoslof Pollock	1,000	100	14	21	4	24	23	14
Pacific Cod	188,000	14,100	2,256	2,820	1,410	2,397	2,538	2,679
WAI Atka Mackerel	27,900	2,093	628	314	167	314	293	377
CAI Atka Mackerel	33,600	2,520	756	378	202	378	353	454
EAI/BS Atka Mackerel	7,800	585	176	88	47	88	82	105
Yellowfin Sole	113,000	8,475	2,373	2,034	678	509	593	2,288
Rock Sole	75,000	5,625	1,350	1,294	450	619	619	1,294
BS Greenland Turbot	5,628	422	84	93	30	63	63	89
AI Greenland Turbot	2,772	208	33	42	10	44	42	37
Arrowtooth Flounder	22,011	1,651	396	363	149	182	165	396
Flathead Sole	40,000	3,000	600	600	300	450	450	600
Other Flatfish	28,000	2,100	525	483	189	210	210	483
BS Pacific Ocean Perch	1,730	130	23	27	9	23	23	23
WAI Pacific Ocean Perch	4,740	356	107	53	28	53	50	64
CAI Pacific Ocean Perch	2,560	192	58	29	15	29	27	35
EAI Pacific Ocean Perch	2,900	218	65	33	17	33	31	39
BS Other Red Rockfish	135	10	2	2	1	2	2	2
AI Sharpchin/Northern	6,745	506	152	76	40	76	71	91
AI Shortraker/Rougheye	912	68	15	12	5	12	12	12
BS Other Rockfish	361	27	7	6	2	3	4	6
AI Other Rockfish	676	51	12	9	4	9	9	9
Other Species	26,500	1,988	358	398	199	318	318	398
Prohibited Species								
Zone 1 Red King Crab (number*)	97,000	7,275	2,110	1,673	582	509	509	1,892
Zone 1 Bairdi Tanner Crab (number)	730,000	54,750	14,235	13,140	4,380	4,380	4,380	14,235
Zone 3 Bairdi Tanner Crab (number)	2,070,000	155,250	35,708	34,155	13,973	18,630	17,078	35,708
Opilio Crab (number)	4,350,000	326,250	78,300	71,775	29,363	35,888	32,625	78,300
Pacific Halibut (metric tons)	4,575	343	75,460	75,460	30,870	41,160	41,160	78,890
Chinook Salmon (number)	41,000	3,075	461	646	123	707	707	431
Non-Chinook Salmon (number)	42,000	3,150	473	662	158	725	693	441

* For prohibited species listed (other than halibut) take is measured in number of animals rather than by weight.

Table 4.1-3 Alaska Native Percentage of Total Community Population, Alaska CDQ Communities, 2000

Aleutian Pribilof Island Community Development Association	
Akutan	16.4%
Atka	91.3%
False Pass	65.6%
Nelson Lagoon	81.9%
Nikolski	69.2%
Saint George	92.1%
Bristol Bay Economic Development Corporation	
Aleknagik	84.6%
Clark's Point	92.0%
Dillingham	60.9%
Egegik	76.7%
Ekuk	0.0%
Ekwok	93.8%
King Salmon	30.1%
Levelock	95.1%
Manokotak	94.7%
Naknek	47.1%
Pilot Point	86.0%
Port Heiden	78.2%
Portage Creek	86.1%
South Naknek	83.9%
Togiak	92.7%
Twin Hills	94.2%
Ugashik	81.8%
Central Bering Sea Fishermen's Association	
St. Paul	86.5%
Coastal Villages Fishing Cooperative	
Chefornak	98.0%
Chevak	95.9%
Eek	96.8%
Goodnews Bay	93.9%
Hooper Bay	95.8%
Kipnuk	98.0%
Kongiganak	97.2%
Kwigillingok	97.9%

Coastal Villages Fishing Cooperative (Continued)	
Mekoryuk	96.7%
Napakiak	96.6%
Napaskiak	98.2%
Newtok	96.9%
Nightmute	94.7%
Oscarville	100.0%
Platinum	92.7%
Quinhagak	97.3%
Scammon Bay	97.4%
Toksook Bay	97.6%
Tuntutuliak	98.9%
Tununak	96.9%
Norton Sound Economic Development Corporation	
Brevig Mission	92.0%
Diomede	93.8%
Elim	94.9%
Gambell	95.8%
Golovin	92.4%
Koyuk	94.3%
Nome	58.7%
Saint Michael	93.2%
Savoonga	95.5%
Shaktoolik	94.8%
Stebbins	94.7%
Teller	92.5%
Unalakleet	87.7%
Wales	90.1%
White Mountain	86.2%
Yukon Delta Fisheries Development Association	
Alakanuk	97.9%
Emmonak	93.9%
Grayling	91.8%
Kotlik	96.1%
Mountain Village	93.5%
Nunam Iqua	93.9%
Total All Villages	**86.8%**

Source: U.S. Bureau of the Census 2000

According to Sec. 305(i)(1)(B) of the Magnuson-Stevens Act, to be eligible to participate in the CDQ program a community must–

(i) be located within 50 nautical miles from the baseline from which the breadth of the territorial sea is measured along the Bering Sea coast from the Bering Strait to the westernmost of the Aleutian Islands, or on an island within the Bering Sea;

(ii) not be located on the Gulf of Alaska coast of the north Pacific Ocean;

(iii) meet criteria developed by the Governor of Alaska, approved by the Secretary, and published in the Federal Register;

(iv) be certified by the Secretary of the Interior pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.) to be a Native village;

(v) consist of residents who conduct more than one-half of their current commercial or subsistence fishing effort in the waters of the Bering Sea or waters surrounding the Aleutian Islands; and

(vi) not have previously developed harvesting or processing capability sufficient to support substantial participation in the groundfish fisheries in the Bering Sea, unless the community can show that the benefits from an approved Community Development Plan would be the only way for the community to realize a return from previous investments.

The 65 coastal communities currently eligible to participate in the CDQ program are organized into six CDQ groups, with between 1 and 21 communities in each group. The CDQ communities are geographically dispersed, extending westward to Atka, on the Aleutian chain, and northward along the Bering coast to the village of Wales, near the Arctic Circle. Table 4.1-4 summarizes the six CDQ groups in terms of their membership, approximate populations, and office locations. The total population of the 65 CDQ communities in 2000 was estimated to be 27,073. However, this population figure may include a substantial number of individuals who are not year-round residents. The administrative offices of CDQ groups tend to be located in regional hub communities, near government or industry partner offices, and/or near community or other ongoing projects.

4.2 CDQ GROUP PROFILES

Individual groups have followed a variety of strategies for using their CDQ allocations, and for the investment or other use of the proceeds. Most have formed stable partnerships with established fishing industry participants and have, or are seeking to, invest in the fishery. The following CDQ group profiles are adapted from those contained within the Steller Sea Lion Protection Measures SEIS (NMFS 2001a). Each CDQ group is allocated a share of the full suite of the species subject to CDQ allocations, but only crab are highlighted in the brief discussions below.

Aleutian Pribilof Island Community Development Association

The communities represented by APICDA are relatively small and located adjacent to the fishing grounds. Unalaska, the largest community in the region and the hub of the Bering Sea fishery is not a CDQ community but is an *ex officio* member of APICDA and has a non-voting member of the APICDA Board of Directors. Unalaska residents are eligible for APICDA training and education opportunities, many of which are located in Unalaska to take advantage of proximity to the industry, rather than in the other member villages.

Table 4.1-4 CDQ Group Communities, Populations (2000) and Administrative Locations

CDQ Group	Member Communities		2000 Population*	Office Locations
APICDA	Akutan Atka False Pass Nelson Lagoon	Nikolski St. George Unalaska**	1,143	Juneau Unalaska Staff also in Homer and Anchorage
BBEDC	Aleknagik Clark's Point Dillingham Egegik Ekuk Ekwok King Salmon/ Savinoski Levelock Manokotak	Naknek Pilot Point Portage Creek Port Heiden South Naknek Togiak Twin Hills Ugashik	5,932	Dillingham Juneau Seattle
CBSFA	St. Paul		532	St. Paul Anchorage
CVRF	Chefornak Chevak Eek Goodnews Bay Hooper Bay Kipnuk Kongiganak Kwigillinook Mekoryuk Mountain Village Napakiak	Napaskiak Newtok Nightmute Oscarville Platinum Quinhagak Scammon Bay Toksook Bay Tuntutuliak Tununak	7,855	Anchorage Bethel
NSEDC	Brevig Mission Diomede/Ignaluk Elim Gambell Golovin Koyuk Nome Savoonga	Shaktoolik St. Michael Stebbins Teller Unalakleet Wales White Mountain	8,488	Anchorage Various
YDFDA	Alakanuk Emmonak Grayling	Kotlik Sheldon Point	3,123	Seattle Seward

* The population estimate may include individuals who are not year-round residents.
** Unalaska is an *ex-officio* member of APICDA.
Source: DCED 2001; U.S. Bureau of the Census, 2000

Currently, APICDA is allocated 18 percent of the Bristol Bay red king crab, 50 percent of the St. Matthew blue king crab, 10 percent of the Bering Sea *C. opilio*, and 10 percent of the Bering Sea *C. bairdi* tanner CDQ allocations. Because of proximity to the fishing grounds and year-round access to ice-free waters, APICDA's focus is primarily on community development and employment opportunities that occur in or near each community. These villages do not have the same need for offshore employment as do residents of many other CDQ communities, who do not have the same opportunity for local fishery development. This is reflected in APICDA's employment statistics, which show one of the highest total employment levels, but a relatively low number of processing jobs. APICDA also has a wide variety of investments in different sectors of the fishery, as well as in tourism, and other areas.

APICDA has employment provisions with both its inshore and offshore partners in different CDQ fisheries and has invested, both with them and individually, in a number of fisheries-based development projects in several of its villages, creating a variety of employment opportunities. APICDA residents in general have shown a preference for non-pollock employment, with the single largest source being renovation and operation of a halibut processing plant in Atka.

Bristol Bay Economic Development Corporation

BBEDC represents 17 villages distributed around the circumference of Bristol Bay, including Dillingham, the second-largest CDQ community with approximately 2,200 residents and the location of BBEDC's home office. BBEDC is currently allocated 18 percent of the Bristol Bay red king crab, 12 percent of the St. Matthew blue king crab, 19 percent of the Bering Sea *C. opilio*, and 19 percent of the Bering Sea *C. bairdi* tanner CDQ allocations.

To date, BBEDC has focused its community development efforts primarily on creating offshore employment opportunities in the groundfish fisheries, and it has employed more village residents in pollock processing jobs than any other group. BBEDC's current partner is said to hire approximately 20 percent of its crew from CDQ villages.

BBEDC has also invested in a variety of fishing vessels, including part-interest in two pollock catcher processors and a freezer longliner. However, BBEDC also has a program to evaluate investments in regional infrastructure. The group also has active vocational training and internship programs with its offshore partner and provides internship opportunities with out-of-region and local businesses to develop administrative and other specialized skills. BBEDC is also helping to promote workforce readiness skills through the four Bristol Bay school districts.

Central Bering Sea Fisherman's Association

CBSFA is unusual among CDQ groups in that it represents a single community, St. Paul in the Pribilof Islands. St. Paul is strategically located to serve the Bering Sea fishing industry. As a result, CBSFA has focused attention on working with other island entities to improve St. Paul's harbor facility and on expanding the island's small boat fleet. The group also operates a revolving loan program to provide boat and gear loans to resident fishermen. CBSFA has primarily invested in crab vessels and has a small ownership interest in American Seafoods. CBSFA has also been exploring the possibility of developing a multi-processing facility in St. Paul, including doing so in conjunction with its existing CDQ partners. Currently, CBSFA receives 10 percent of the Bristol Bay red king crab, 100 percent of the Pribilof red and blue king crab, 19 percent of the Bering Sea *C. opilio*, and 19 percent of the Bering Sea *C. bairdi* tanner CDQ allocations.

Reflecting the focus of St. Paul residents on developing local fishing ventures and infrastructure, CBSFA has not seen much demand among residents for off-island processing jobs, either offshore or inshore. The group is partnered with a large offshore company and would like to build on the benefits of product offloads at St. Paul harbor and the attendant support services its residents can provide.

Coastal Villages Region Fund

CVRF currently manages 18 percent of the Bristol Bay red king crab, 12 percent of the St. Matthew blue king crab, 17 percent of the Bering Sea *C. opilio*, and 17 percent of the Bering Sea *C. bairdi* tanner CDQ allocations. CVRF villages are located along the coast between the southern end of Kuskokwim Bay and Scammon Bay, including Nunivak Island. This remote area is poorly located to engage in the current Bering Sea fisheries. Furthermore, its residents, for the most part, have had little experience with commercial

enterprise. CVRF has focused on helping residents adjust to working conditions outside of the immediate area and employs a training coordinator who actively recruits residents for employment and internship opportunities. CVRF sees a distinct employment advantage in the offshore sector for its residents, primarily because of shorter time commitments and higher wages. However, the group currently has both inshore and offshore partners. CVRF has purchased 22.5 percent of American Seafoods, the largest offshore fishing company in the Bering Sea with seven factory trawlers.

CVRF provides employment to fishermen through its nearshore CDQ halibut fishery and on a longline vessel that harvests CDQ sablefish. The group continues to be interested in establishing salmon processing facilities both on the Kuskokwim and elsewhere in the region, as well as halibut processing facilities.

Norton Sound Economic Development Corporation

Fifteen villages make up the region represented by NSEDC, ranging from St. Michael to Diomede. The geographic expanse and diversity of interests among NSEDC's communities are challenging, as are the hurdles to developing local fisheries in this remote area that is icebound in winter.

Nevertheless, NSEDC has actively pursued both local fisheries and Bering Sea pollock investment strategies. The group has purchased approximately 50 percent of its offshore processor partner, Glacier Fish Company (GFC), including two catcher/processors and a seafood marketing subsidiary. Together with GFC, NSEDC owns the Norton Sound Fish Company, which operates a longline vessel and employs significant numbers of region residents. The group also owns independently two tender vessels specially built for the Norton Sound region. NSEDC currently manages 18 percent of the Bristol Bay red king crab, 50 percent of the Norton Sound red king crab, 14 percent of the St. Matthew blue king crab, 18 percent of the Bering Sea *C. opilio*, and 18 percent of the Bering Sea *C. bairdi* tanner CDQ allocations.

NSEDC has developed or planned fisheries development projects in several villages, including Norton Sound Crab Company in Nome and commercial halibut operations on St. Lawrence Island. GFC hires residents of the Bering Sea region on a preferential basis for CDQ fishery operations. NSEDC operates an employment and training office in Unalakleet.

Yukon Delta Fisheries Development Association

YDFDA represents five communities. The group's emphasis has been on creating employment opportunities in the Bering Sea fishery both through its mothership partner in the groundfish fishery and through other pollock processors, both inshore and offshore. Another area of focus has been on a comprehensive training program that includes a combination trawl/pot/longline vessel and a 47-foot longline crab vessel. YDFDA currently has 18 percent of the Bristol Bay red king crab, 50 percent of the Norton Sound red king crab, 12 percent of the St. Matthew blue king crab, 17 percent of the Bering Sea *C. opilio*, and 17 percent of the Bering Sea *C. bairdi* tanner CDQ allocations.

YDFDA faces the challenges of representing a region with few natural resources to develop, long distances to most viable fisheries, and relatively undeveloped human resources with respect to active participation in a commercial economy setting. While the group places residents in jobs with all three sectors, it indicates that offshore and mothership employment are most useful for its residents. The group's CDQ royalties fund a variety of training activities encompassing technical and office skills.

4.3 ECONOMIC IMPACTS OF THE CDQ PROGRAM

Revenue Generation

To be eligible to participate in the CDQ program, CDQ communities could have no current or historical linkage to the fisheries in question at the time of the program's implementation. Therefore, at the onset of the program it was necessary for each CDQ group to enter into a relationship with one or more of the large commercial fishing companies that was participating in the pollock fishery. As other fisheries were added, this same general pattern was followed, with the exception of some of the halibut CDQs, to one degree or another. The CDQ community brings the asset of preferential access to the fishery resource while the partnering firm brings the harvesting/processing capacity and experience in the fishery. The nature of these relationships differs from group to group. In every case, the CDQ community receives royalty payments on apportioned catch shares. Some of the agreements also provide for training and employment of CDQ community members within the partners' fishing operations, as well as other community development benefits. Each of the six groups negotiates a specific price per metric ton for the use of the apportioned CDQ shares, or a base price plus some form of profit sharing.

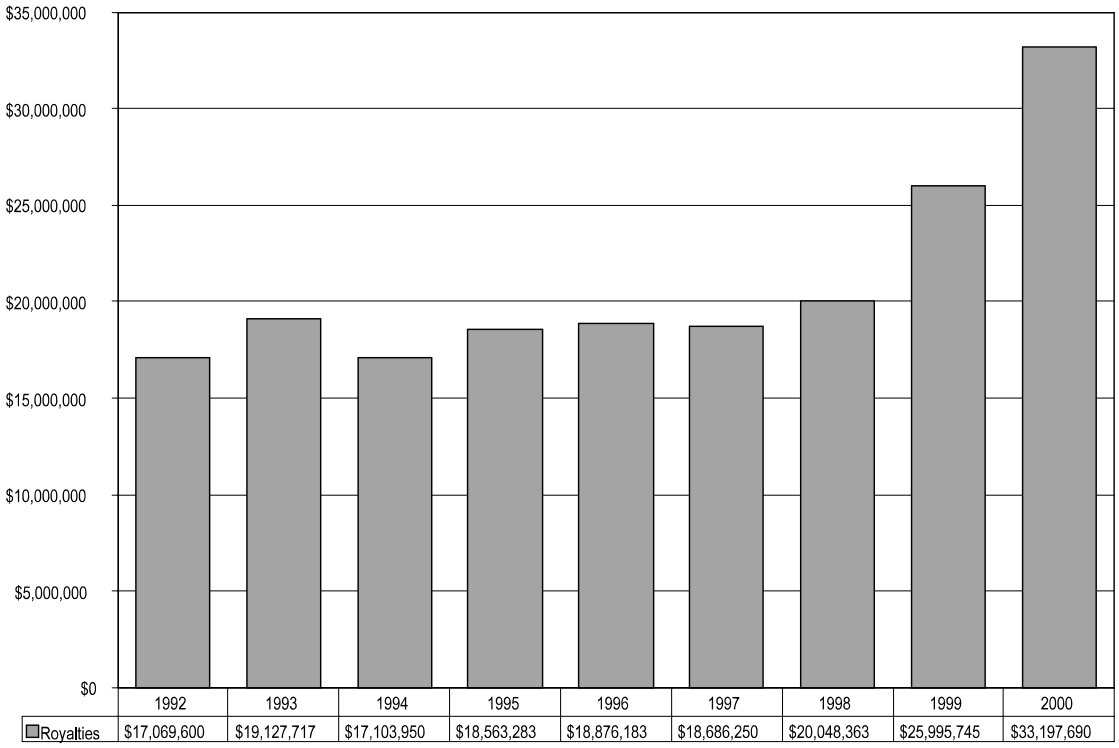
Based upon reports of consistently high bid-prices for CDQ shares (see, for example, testimony before the NPFMC on the impacts of Inshore/Offshore III on the pollock CDQ program), the partnering companies also apparently receive substantial benefits from these CDQ relationships. These benefits may include preferred access to the resource, resulting in better yields and more valuable product forms (e.g., roe), and the more efficient use of capacity. The positive aspects of the CDQ pollock fishery probably contributed to the successful implementation of the offshore cooperative management system by affirmatively demonstrating the economic gain of a rationalized approach to pollock harvesting.

The BSAI crab fisheries have been a relatively recent addition to the CDQ program. Initially focused on the pollock fishery, pollock has continued to dominate royalties even after the addition of other species to the CDQ program. For the years 1992 through 1998, pollock CDQ royalties fluctuated between $17 million and $20 million per year (Figure 4.3-1). Royalty income rose substantially in 1999 and 2000 because both the TAC and lease price of pollock CDQ shares increased. Stronger overseas markets for groundfish products and a shift by processors to higher value products were among the reasons for the increase in CDQ lease values. In 2000, the CDQ groups received over $33 million in pollock CDQ royalties.

While pollock still dominates the program in terms of total royalties, royalties from the multispecies program provided an additional $7.3 million to the CDQ groups in 2000 (DCED 2001). Of the 2000 total of approximately $40.5 million for all species, pollock accounted for approximately 82 percent of all royalties, while all other species combined represented approximately 18 percent of total royalties. In 2000, crab was a significant contributor to, but not the majority of, the non-pollock royalty subtotal. The percentage of the total 2000 royalties generated by each non-pollock species were Pacific cod – 8 percent; opilio crab – 5 percent; Bristol Bay red king crab – 3 percent; and other species, including sablefish, Atka mackerel, halibut and turbot – 2 percent.[38] (Beyond royalties, as the CDQ program expanded to species other than pollock, different CDQ groups pursued different ways to participate in those fisheries, including vessel purchase, as noted below.)

[38] Note: the crab percentage contribution figures vary slightly from what would be calculated from the audited royalty figures for 2000 presented below but are of a similar magnitude (and comparably adjusted figures are not available for other CDQ fisheries).

Figure 4.3-1. Pollock CDQ Royalties, 1992-2000



	1992	1993	1994	1995	1996	1997	1998	1999	2000
Royalties	$17,069,600	$19,127,717	$17,103,950	$18,563,283	$18,876,183	$18,686,250	$20,048,363	$25,995,745	$33,197,690

Source: DCED (2001)

The crab CDQ species reserve initiated in 1998 includes all king and tanner crab species in the BSAI that have a GHL specified by the State, which are Bristol Bay red king crab, Pribilof Islands red and blue king crab, St. Matthew blue king crab, snow crab (*C. opilio*), Norton Sound red king crab, and tanner crab. The species actually harvested under the CDQ program, however, have varied in the few years since program implementation. In 1998, the CDQ groups harvested *C. opilio*, St. Matthew blue king crab, Pribilof red and blue king crab, and Bristol Bay red king crab, but no CDQ fishery for tanner crab occurred. In 1999, the State closed the fisheries for Pribilof red and blue king crab and St. Matthews blue king crab and, as a result, since 1999, CDQ groups have only harvested *C. opilio* and Bristol Bay red king crab. At the time the range of species actually harvested as CDQ crab was narrowing, the portion of TAC/GHL assigned to the CDQ reserve was increasing. The provisions of the Magnuson-Stevens Act guiding the program specified a phase-in period, with the CDQ groups receiving 3.5 percent of the CDQ crab species harvested in 1998, 5.0 percent in 1999, and 7.5 percent in 2000 and beyond.

In 1998, the first year of the crab fishery CDQ program, the total value of all CDQ crab fisheries was $6.2 million. In 1999, this figure increased to $11.5 million, but in 2000 it dropped back to $7.2 million, due to stock decline (and despite of a percentage increase of the CDQ portion of the total fishery). Information on crab-specific royalties for 1998 and 1999 was not available at the time of this writing.

In 2000, CDQ royalties for opilio and Bristol Bay red king crab fisheries combined were $2,842,100, according to recently released audited data. In 2001, the analogous figure was $2,484,610. In 2000, opilio

royalties totaled $1,680,954 for all CDQ groups, and in 2001 this figure dropped to $1,206,559. Volume decreased over this same period from 2,090,692 pounds to 1,865,648 pounds, while average price declined from $0.80 to $0.65 per pound. For Bristol Bay red king crab, royalties for all CDQ groups totaled $1,161,146 in 2000 and increased to $1,278,051 in 2001. Volume remained nearly unchanged, going from 603,338 to 602,515 pounds, while average price increased from $1.92 to $2.12 per pound (G. Cashen [ADEC], personal communication, October 2002).

Asset Accumulation

The revenue stream from the lease of CDQ allocations has permitted the development of considerable savings within the CDQ groups. These savings provide important capital for making investments, and asset accumulation by CDQ communities is one empirical measure of the performance of the program. Amassing of equity interest in real assets represents a clear community development strategy. Data suggest that CDQ groups, when taken as a whole, have retained almost half of their gross revenues in some form of equity, whether vessel ownership, processing facilities, marketable securities, loan portfolios, and IFQ holdings. The value of CDQ assets in aggregate increased over tenfold in 8 years, going from $1.5 million in 1992 to over $157 million in 2000 (DCED 2001).

Another benefit of capital asset acquisitions and venturing with industry participants is the enhanced control communities may exercise over the joint economic activity. As members in fishing companies with ownership interest, the CDQ groups are better able to take part in decisions that directly impact business operations and, thus, profitability. Also, the opportunity for technology transfer and hands-on experience (whether operational or managerial) occurs from the industry partner to the CDQ group. CDQ groups and their residents are able to learn firsthand how the industry functions. This increases the likelihood of local control as CDQ residents, who have spent time learning from established industry partners, may one day be in control of their own operations and be able to operate independent of the CDQ program. In the interim, expanded employment opportunities, made available through vessel acquisition and partnering with established industry members, increase the sharing of benefits that accrue from the CDQ activities.

Increasingly, CDQ groups are using their CDQs to leverage capital investment in harvesting/processing capacity. Acquisition of ownership interest in commercial fishing operations and other fisheries-related enterprises is one important means of directly adding to a CDQ group's economic sustainability, consistent with the program's mandate. Current equity acquisitions in vessels are presented in Table 4.3-1.

All six CDQ groups have acquired ownership interests in the offshore pollock processing sector. In addition, APICDA and NSEDC have invested in inshore processing plants, some of which process crab (Table 4.3-2). These inshore plants include both shore-based and floating processing facilities. In most of the processing ventures in which CDQ groups have invested, the groups are minority owners. However, the revenues derived from these investments may be substantial.

Table 4.3-1 Vessel Acquisitions by CDQ Groups as of 2000

CDQ Group	Vessel Acquisitions (percent ownership in parentheses and vessel class in brackets)
APICDA	• Starbound (20%) 240' pollock factory trawler • Bering Prowler (*25%)* 124' longline vessel harvesting Pacific cod and sablefish • Prowler (*25%)* 114' longline vessel harvesting Pacific cod and sablefish • Golden Dawn (*25%)* 148' catcher vessel harvesting Pacific cod, pollock and crab • Ocean Prowler (20%) 155' longline-processing vessel harvesting Pacific cod and sablefish • Farwest Leader (*25%)* 105' pot vessel harvesting crab and Pacific cod • Stardust (100%) 56' longline vessel harvesting Pacific cod and halibut • Bonanza (100%) 38' longline vessel harvesting halibut • AP#1, AP#2, AP#3 (100%) 36' longline vessels harvesting halibut and Pacific cod • AP#4, AP#5 (100%) 35.5' longline vessels harvesting halibut and Pacific cod • Konrad 1 (*75%)* 58' trawler/pot/tender vessel harvesting Pacific cod and pollock, salmon tender • Nikka D (100%) 28' vessel harvesting halibut • Agusta D (100%) 28' sportfishing charter vessel • Grand Aleutian (100%) 32' sportfishing charter vessel
BBEDC	• Arctic Fjord (20%) 270' pollock factory trawler • Bristol Leader (50%) 167' longline vessel harvesting Pacific cod, halibut and sablefish • Neahkahnie (20%) 110' pollock catcher processor • Northern Mariner (45%) crab vessel • Bristol Mariner (45%) 125' crab vessel • Nordic Mariner (45%) 121' crab vessel • Cascade Mariner (40%) 100' crab vessel
CBSFA	• American Seafoods, LP (22.5%) which owns the following 270-340' catcher processors harvesting pollock, Pacific cod, yellowfin sole and rock sole: American Dynast, Katie Ann, Northern Eagle, Ocean Rover, Northern Jaeger, American Triumph, and Northern Hawk • Zolotoi (20%) 98' crab vessel • Ocean Cape (35%) 98' crab vessel
CVRF	• American Seafoods, LP (22.5%) which owns the following 270-340' catcher processors harvesting pollock, Pacific cod, yellowfin sole and rock sole: American Dynast, Katie Ann, Northern Eagle, Ocean Rover, Northern Jaeger, American Triumph, and Northern Hawk • Ocean Prowler (20%) 155' longline-processing vessel harvesting Pacific cod and sablefish • Ocean Harvester (45%) 58' longline vessel harvesting halibut and Pacific cod • Silver Spray (50%) 116' crab vessel and Pacific cod freezer boat
NSEDC	• Glacier Fish Company (50%) which owns the following 201-276' catcher processors harvesting pollock and Pacific cod: Northern Glacier and Pacific Glacier • Norton Sound (49%) 139' longline vessel • Golovin Bay (100%) tender • Norton Bay (100%) tender
YDFDA	• Emmonak Leader (75%) 103' catcher vessel harvesting pollock • Alakanuk Beauty (75%) 105' catcher vessel harvesting pollock • Golden Alaska (19.6%) 308' pollock mothership • Blue Dolphin (100%) 47' longline/crab vessel • Lisa Marie (100%) 78' trawl/pot/longline vessel

Source: DCED 2001

Table 4.3-2 Inshore Processing Plant Acquisitions by CDQ Groups as of 2000

CDQ Group	Inshore Plant Acquisitions (percent ownership in parentheses)
APICDA	• Atka Pride Seafoods, Inc. (100%) processes halibut • Bering Pacific Seafoods (50%) processes Pacific cod, salmon and other species
NSEDC	• Norton Sound Seafood Products (100%) processes mainly salmon • Norton Sound Crab Company (100%) processes mainly crab

Source: DCED 2001

Employment and Income

At the time of the 1990 U.S. Census, all the communities in rural, western Alaska were experiencing relatively high levels of unemployment, ranging from 9 percent in the Bristol Bay area to 31 percent in the Yukon Delta area (DCED 2001). While these high unemployment rates partly reflect the seasonality of employment opportunities and the timing of the census in April, they also may show the effects of limited employment opportunities. All of the communities in the CDQ areas had median incomes that were lower than the state median income (DCED 2001). The median income of the Central Bering Sea area and the Bristol Bay area was less than 10 percent below the state level, but in the Yukon Delta area and the Aleutian Pribilof area the median income was only slightly greater than half the state level (DCED 2001). The poverty rates in all the CDQ areas except the Central Bering Sea were at least twice the state rate of 7 percent.

Employment opportunities have been one of the most tangible direct effects of the CDQ program for many western Alaska village residents. Indeed, the CDQ program has had some success in securing career track employment for many residents of qualifying communities and has opened opportunities for non-CDQ Alaskan residents, as well. Jobs generated by the CDQ program included work aboard harvesting vessels, internships with the partner company or government agencies, work at processing plants, and administrative positions.

Table 4.3-3 summarizes the total annual CDQ employment and wages presented in quarterly reports. The CDQ program has created an excess of $8 million in wages annually since 1998. As shown in Table 4.3-3, non-pollock fisheries, although accounting for a relatively small proportion of total CDQ fisheries value or royalties, accounted for a significant majority (62.5 percent) of CDQ employment and almost half (47.6 percent) of total wages earned in 2000.

Table 4.3-3 CDQ Employment and Wages for all CDQ groups, 1993-2000

	1993	1994	1995	1996	1997	1998	1999	2000
Number of Persons Working*								
Management/ Administration	26	48	58	63	63	79	96	155
CDQ Pollock-Related	186	213	228	261	227	443	244	297
Other Fisheries	64	276	393	691	629	634	786	1,146
Other Employment	95	531	157	138	130	194	213	236
Total	371	1,068	836	1,153	1,049	1,350	1,339	1,834
Total Wages*								
Management/ Administration	$586,537	$1,012,125	$1,218,892	$1,636,860	$1,803,766	$2,284,792	$2,661,976	$3,084,757
CDQ Pollock-Related	$1,000,360	$1,280,695	$1,866,619	$1,686,104	$2,660,938	$2,649,001	$2,149,062	$1,741,871
Other Fisheries	$609,058	$1,000,103	$1,132,824	$2,280,554	$2,756,688	$2,075,495	$4,201,775	$5,959,516
Other Employment	$0	$1,791,479	$1,350,766	$723,724	$887,338	$1,167,173	$1,573,358	$1,723,054
Total	$2,195,955	$5,084,402	$5,569,101	$6,327,242	$8,108,730	$8,176,461	$10,586,171	$12,509,198

* Employment figures may not represent full-time positions. In addition, some double-counting of employment and wages may have occurred in the compilation of data for quarterly reports.
Source: DCED 2001

From 1993 through 2000, CDQ management and administration accounted for about 6 percent of the jobs and 24 percent of the wages. Pollock harvesting and processing accounted for 24 percent of the jobs and 26 percent of the wages. While pollock dominates in terms of royalty payments to groups, the multi-species fisheries actually accounted for much more employment (but less income per position). Fisheries other than pollock, which include employment related to crab, halibut, salmon, sablefish, and herring, accounted for 51

percent of the jobs and 34 percent of the wages. Finally, other employment, including internships, accounted for 18 percent of the jobs and 15 percent of the wages.

An overview of the relative impacts of the CDQ program may be gained by comparing income generated by the CDQ program with the total income in CDQ communities. Adjusted gross income data by zip code are available from the Internal Revenue Service for 2 years during the period that the CDQ program has existed - 1997 and 1998. The total adjusted gross income for all CDQ communities in these 2 years was $242,200,000 and $252,600,000, respectively. In addition, an estimate of adjusted gross income can be derived for 1999, the most recent year for which personal income data are available from the Regional Economic Information System (REIS) of the U.S. Bureau of Economic Analysis for Alaska boroughs and census areas. In 1997 and 1998, adjusted gross income in CDQ communities was approximately 27.5 percent of the total personal income in the boroughs and census areas in which CDQ communities are located. Applying this percent to the 1999 REIS personal income data yields an estimated adjusted gross income of $259,800,000 in CDQ communities for that year.

Table 4.3-4 shows CDQ wages in 1997 and 1998 as reported to DCED and total adjusted gross income for all CDQ communities as estimated above. CDQ-related income accounted for about 4.1 percent of the total income in CDQ communities by 1999.

Table 4.3-4 CDQ Wages Compared with Total Adjusted Gross Income in CDQ Communities, 1997-1999

Year	Total Adjusted Gross Income	CDQ Wages*	CDQ Wages as % of Total Adjusted Gross Income
1997	$242,200,000	$8,108,730	3.3%
1998	$252,600,000	$8,176,461	3.2%
1999	$259,800,000	$10,586,171	4.1%

Note: Includes management/administration wages
Sources: DCED 2001; Internal Revenue Service

While this analysis is based on the best information available, it yields only a rough approximation of the contribution of CDQ wages to regional income. As noted above, CDQ management and administration account for nearly one-fourth of CDQ wages. Many of the individuals in administrative positions work and reside in non-CDQ communities (Table 4.1-4). By including the wages of those individuals, this analysis overestimates the contribution of CDQ wages to the total income of CDQ communities. Some level of error may also have been introduced in the analysis because Internal Revenue Service income data are reported by zip code. The incomes of a number of small non-CDQ communities that share a zip cope with CDQ communities were included in the figure for total adjusted gross income. However, given the small size of the non-CDQ communities included, it is unlikely that the introduced error appreciably changed the analysis results. Similarly, the incomes of certain CDQ communities (Kongiganak, Napaskiak, Newtok, and Oscarville) were omitted from the total adjusted gross income figure because their zip code overlapped with the relatively large non-CDQ community of Bethel. Again, the introduced error is likely insignificant due to the small size of the CDQ communities omitted.

Adjusted gross income data obtained from the Internal Revenue Service for 1997 and 1998 can also be used to examine the contribution of CDQ wages of each CDQ group (Table 4.3-5). Among the factors that account for the differences across groups is the presence or absence of communities with comparatively large populations and diverse economies. For example, the CDQ communities of King Salmon and Dillingham in

the BBEDC region and Nome in the NSEDC region contributed about half of the total adjusted gross income for all CDQ communities in 1997 and 1998. The higher level of economic activity in these towns results in higher per capita incomes and reduces the relative importance of CDQ wages.

Table 4.3-5 CDQ Wages Compared with Total Adjusted Gross Income in CDQ Communities, by CDQ Group, 1997-1998

Wages	APICDA	BBEDC	CBSFA	CVRF	NSEDC	YDFDA
1997						
CDQ Wages*	$134,395	$1,480,979	$223,201	$1,193,590	$1,252,493	$1,831,355
Total Adjusted Gross Income	$11,115,000	$74,730,000	$8,517,000	$33,381,000	$97,171,000	$17,256,000
CDQ Wages as a Percentage of Total Adjusted Gross Income	12.09%	1.98%	2.62%	3.58%	1.29%	10.61%
1998						
CDQ Wages*	$1,061,750	$1,317,694	$714,288	$1,645,402	$1,663,439	$1,773,888
Total Adjusted Gross Income	$10,209,000	$80,655,000	$8,010,000	$35,719,000	$100,375,000	$17,659,000
CDQ Wages as a Percentage of Total Adjusted Gross Income	10.40%	1.63%	8.92%	4.61%	1.66%	10.05%

* Includes management/administration wages
Sources: DCED 2001; Internal Revenue Service; Regional Economic Information System

Training and Education

Training of CDQ community residents has been a primary objective for all the CDQ groups from the outset of the program and has been promoted as an essential means to a sustainable locally based fishery economy. Each CDQ group provides training for their residents, based not only upon the individual needs of the trainee, but upon the overall needs of the community.

Training programs span the range of educational opportunities, from vocational and technical training, to support for higher education at college and university levels. CDQ groups have spent nearly $8 million directly on training expenditures involving over 7,000 residents since 1993 (DCED 2001).

These investments are wholly dependent upon the revenues generated by the CDQ apportionments and, therefore, are another empirical measure of benefits deriving from the groundfish fisheries of the BSAI management area.

Indirect Employment and Income Effects

Some of the income earned in CDQ jobs, as well as spending for supplies and services in support of CDQ projects, passes through local merchants, service providers, and others before leaking out of the region in exchange for imports. The additional employment and income generated in this way is referred to as indirect economic impacts. In an area such as western Alaska, where very few goods and services are provided locally, money leaks out of the region relatively quickly. Nevertheless, every extra contribution to jobs and income helps, and these additional economic impacts of the CDQ program should not be overlooked.

4.4 POTENTIAL CRAB MANAGEMENT ALTERNATIVE CDQ REGION SOCIAL IMPACTS

Status Quo Alternative

No significant impacts to the CDQ region are anticipated under the status quo alternative. The fishery would continue to operate under the existing conditions system, whereby the CDQ crab fishery operates on a set-aside separate and apart from the race-for-fish regular BSAI crab fisheries. As a result, CDQ groups receive returns that are proportionately greater than those seen in the regular fishery.

Three-Pie Voluntary Cooperative Alternative

The three-pie alternative includes provisions for expanding the program into all BSAI crab fisheries managed under the FMP (with the exception of the WAI golden king crab fishery), and increasing the overall percentage of crab TAC/GHL that would be designated for CDQ set-aside from 7.5 percent to 10 percent. This same increase also applies to the other two rationalization alternatives (the IFQ alternative and the cooperative alternative). These changes would be beneficial to the CDQ regions and their communities. Accompanying this increase in CDQ allocation is a provision that earmarks 25 percent of crab CDQ allocations (i.e., the proportion of the new total allocation attributable to the increase from 7.5 to 10 percent) to be delivered to shore based facilities.

Under existing conditions, the CDQ crab fishery operates in much the same way that one would expect a rationalized crab fishery to operate – at a somewhat slower pace, with a reportedly higher utilization rate, and more value-added products than in the open access fishery. Rationalization of the current open access portion of the fishery would not appear likely to change this pattern, in that it would make the entire fishery come to more closely resemble the current CDQ portion of the fishery rather than vice versa. In a number of ways, the CDQ portion of the crab fishery is already rationalized. The only identified potential adverse impact would be a relative decrease in the value of CDQ crab in a rationalized fishery. That is, as the entire fishery rationalizes, CDQ crab does not have the additional attraction of being the only rationalized portion of a fishery otherwise structured for a race for fish. It is not possible to quantify the potential impact of this structural change vis-a-vis the rest of the fishery at this point, however, as the economic benefits that will extend to the fishery as a whole under rationalization may result in net benefits to CDQ participants as well (i.e., increased market prices may make up for the incremental advantage over the rest of the fishery lost during rationalization).

CDQ experience with rationalization of the pollock fishery through the AFA and co-ops indicates that a rationalized fishery provides a great deal of investment opportunity for CDQ groups. However, a complicating factor in the pollock fishery that may limit the applicability of this experience to the crab fishery is that CDQ investments were perhaps more attractive in the pollock fishery than would otherwise be the case due to the need to "Americanize" the fishery, and the CDQ groups provided a relatively seamless means to do so. A similar situation does not exist in the crab fishery. Nevertheless, CDQ investments in a rationalized crab fishery could be expected to increase, all things being equal.

CDQ groups could also benefit from the three-pie alternative through community protection provisions regarding the right of first refusal on sale of processing quota share. As detailed elsewhere, following a two year “cooling off” period (another community protection feature of this alternative) that prevents the movement of processor quota out of communities (with the exception of a relatively minor amount to allow companies some degree of flexibility in adjusting their operations), eligible communities (that is those with 3 percent or more of the processing total of a covered species) would have the right of first refusal on sales of quota share. For communities where a CDQ group exists, the community group that could exercise this right is the CDQ group (communities without a local CDQ group would form a community group along the

lines of similar groups formed to address halibut and sablefish rationalization needs, as detailed elsewhere). In this way, CDQ groups could expand holdings into processor shares, which would be a benefit to the CDQ groups.

An additional feature of the three-pie alternative under community development allocations is a provision that for the WAI golden king crab fishery, the percentage of the resource not utilized (difference between actual catch and GHL) during the base period is allocated to the community of Adak, with a provision capping the total percentage at 10 percent. Essentially, this equates to a 10 percent set-aside of the WAI golden king crab fishery for Adak. In other words, at the same time the CDQ program set-aside was increased to 10 percent and enlarged to encompass all BSAI crab fisheries except WAI golden king crab, 10 percent of WAI golden king crab was set aside in a similar fashion for the non-CDQ community of Adak. This provision was explicitly intended to help the growth of a commercial fisheries economic base for the emerging civilian community of Adak following the post-Cold War closure of military facilities on the island.

As noted in the Adak community profile, while Adak is not a CDQ community, fisheries development that is occurring in the community is happening under the auspices of the Aleut Corporation (and/or its subsidiaries), which has assumed ownership and control over the former military installation and is overseeing the conversion to a civilian community and the fostering of a local economy. Aleut Corporation development plans explicitly include the development of fish processing on Adak to support a local fishing fleet, but which is not meant to adversely affect development efforts in the nearby CDQ community of Atka in regard to halibut. Crab processing on Adak at present is considerably less important economically than cod, halibut, and sablefish and has so far been limited primarily to WAI golden king crab, as Adak is not particularly advantageously located with respect to processing other species of BSAI crab. Essentially this "community development allocation" provision would have a community group in Adak function like another type of CDQ group (but it would not be a part of the CDQ program itself). This set aside should not directly impact the CDQ region communities, so long as nearby Atka interests are protected. Impacts to other communities would be limited by the provision that the Adak set-aside is confined to that portion of the resource that was not being utilized during the base or qualification period; however, the most recent information indicates that there is essentially no unutilized resource at present. To the extent that is accurate, the impact of such a set-aside on other communities would depend on the specific manner in which such an allocation would be made from among existing participants.

The regionalization component of this alternative could have an impact specifically on the CBSFA CDQ group, as fish processing, and the support of local fisheries as well as Bering Sea industrial commercial fisheries, has been a primary goal on St. Paul. Currently, it is reported that five out of six CDQ groups have their crab delivered to, and processed on, St. Paul. This is likely to continue, and to in essence help to support processing facilities on St. Paul, or in and near St. Paul harbor. APICDA would also potentially experience positive impacts due to the inclusion of St. George in the north region. Regionalization, or the absence of it, could conceivably affect all CDQ groups and their fisheries operations on a more general level. With regionalization, CDQ group efforts to process more Bering Sea fish in CDQ communities would seem to be supported (at least for St. Paul, and likely St. George). CDQ processing of crab on St. Paul in combination with regionalization may form the nucleus for a larger multispecies processing effort there. Without regionalization, CDQ crab may still provide leverage by which some processing is maintained in St. Paul as CDQ groups could require that CDQ crab be delivered and processed there as part of their formal contracts, although this, of course, would have to be an individual business decision. St. George would seem to be in a much more tenuous position. Other St. Paul and St. George specific impacts of a regionalization approach are discussed in the respective community profiles. The regionalization feature directed at the WAI golden king crab fishery (requiring delivery of 50 percent of crab caught in that fishery to be delivered west of 174° West Longitude) effectively mandates that processing take place on the Aleutian Chain from the community of Atka westward. While this provision would initially primarily benefit the community of Adak, due to the

already developed processing capacity in that community, it could, over time, benefit the CDQ community of Atka as well.

Individual Fishing Quota Alternative

CDQ region direct impacts under the IFQ alternative would be similar to those associated with the three-pie alternative as identical CDQ allocation increases apply. These impacts would be immediate and beneficial. Differences between the impacts of the two alternatives on CDQ groups would result from the fact that under the IFQ alternative there are no processor quota shares, and no specific community protection provisions (other than the waiver of sea time requirements for the purchase of harvester shares). Regionalization would still apply, but movement or consolidation of existing processing capacity within regions would be much easier, and this may have the effect of shifting processing activity away from some CDQ communities, such as St. George. This would, however, not be a direct impact resulting from CDQ program changes.

Cooperative Alternative

CDQ region direct impacts under the cooperative alternative would be similar to those associated with the three-pie and IFQ alternatives as identical CDQ allocation increases apply. Other impacts would be similar to those seen under the IFQ alternative, except that regionalization would not apply. Without regionalization, processing activity is expected to diminish if not completely vanish from the north region, which would have negative impacts on local CDQ groups, as well as the communities themselves, as detailed in the St. Paul and St. George community profiles.

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ATTACHMENTS
TO

APPENDIX 3
SOCIAL IMPACT ASSESSMENT
BSAI CRAB FMP EIS
OVERVIEW AND COMMUNITY PROFILES

SIA Attachment 1: Social Impact Assessment Study Methodology

SIA Attachment 2: Unalaska Municipal Revenue Note

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August 2004

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SIA Attachment 1: Social Impact Assessment Study Methodology

This document builds directly upon, and is a planned extension of, earlier efforts conducted for the Bering Sea/Aleutian Islands (BSAI) Crab Rationalization Program Alternatives analysis provided in Public Review Draft form at the June 2002 meetings of the North Pacific Fishery Management Council (NPFMC) in Dutch Harbor, Alaska. The earlier document represented analysis that supported NPFMC selection of a preferred (rationalization) alternative, whereas the present effort expands that analysis to support a multiple alternative Environmental Impact Statement (EIS) analysis.

Steps in the Research Process

The overall research generally followed the steps outlined below. In practice, a number of different tasks took place simultaneously.

- *Preliminary Data Analysis*. NPFMC staff provided the subcontractor staff with sector and location data throughout the project as they became available. Results included homeport data, harvest data, and other relevant data by sector/location. These data were used initially to help focus the research effort, including helping to identify entities and individuals to contact. Much of this effort was in effect an augmentation of the earlier work accomplished for the Steller Sea Lion Protection Measures Supplemental EIS (SEIS) (the SSL SEIS for short), the American Fisheries Act (AFA) Report to Congress, and the Groundfish SEIS, and used that work as a foundation. The results of the analysis of these data are presented in the main body of this document, and detailed supporting information is contained in Social Impact Assessment (SIA) Attachment 3: Supporting Data Tables.

- *Formulate Study Plan, including a Field Plan.* Following a preliminary examination of the current fishery data, an overall study plan, with emphasis upon the field plan for collecting additional sector, and especially community information, was prepared.

- *Summarize Relevant Existing Information*. Prior to the collection of field data, existing information relevant to the present effort was summarized. A good foundation for this existed in the SSL SEIS and earlier documents, which has incorporated important sources such as the 1991 community profiles and accompanying SIA, the 1994 Sector Profiles and Supplemental SIA (and supporting materials), the 1998 Inshore/Offshore-3 analysis, the Groundfish SEIS, and the AFA Report to Congress SIA section previously prepared by team members for earlier NPFMC groundfish management tasks. While these were somewhat limited with respect to crab-specific information (being oriented primarily toward analyses of the groundfish fisheries), these materials, along with other relevant sources, were used to develop preliminary pre-field regional and community profiles, to identify information gaps, and to guide field interviews and research.

- *Conduct Initial Field Visits and Phone Contacts to Collect Required Information*. Field time was limited by schedule and resource constraints. Brief field site visits were made to Unalaska/Dutch Harbor (4 days), St. Paul (3 days), Kodiak (4 days), and Seattle (3 days). Other in-person contacts were made in Anchorage, and phone contacts were made with entities or individuals for all communities profiled.

- *Incorporate Additional Council Staff Analysis*. Portions of the rest of this report relevant to social and community effects were incorporated and discussed with Council staff.

- *Prepare Initial Review Draft Report*. Primary data and the available secondary data were analyzed, and a draft report prepared. The draft report included overview discussions and community profiles, and impacts analysis by region and community based on these profiles.

- *NPFMC Meeting and Consultation*. The draft community profiles and accompanying discussions (in the form of Appendix 2-6 of the BSAI Crab Rationalization Program Alternatives document) were presented at the February 2002 Council meetings in Anchorage. Input in the form of SSC, AP, and Council questions or comments was received.

- *Prepare Revised Initial Review Draft Report*. Input from the NPFMC February 2002 meetings was incorporated in this revision, along with field data from St. Paul. Secondary data received from Council staff subsequent to the February 2002 meetings were utilized as the basis for the newly written Community and Social Impacts section in the main BSAI Crab Rationalization Program Alternatives document.

- *NPFMC Meeting and Consultation*. The revisions to community profiles appendices were summarized and presented along with the newly written main document community and social impacts section at the April 2002 Council meetings in Anchorage. Input in the form of SSC, AP, and Council questions or comments was received.

- *Prepare Public Review Draft Report*. Input from the NPFMC April 2002 meetings was incorporated into this revision, along field data from Kodiak. Limited additional secondary information was incorporated into various subsections of the main document as well as the SIA appendix, and a limited number of sections were edited for clarity. A new attachment (Supporting Data Tables) was added, containing individual year tables to support summary tables that appeared elsewhere in the document. This version was distributed in hard copy beforehand and presented at the June 2002 NPFMC meetings in Unalaska/Dutch Harbor.

- *Prepare Final BSAI Rationalization Program Alternatives Report.* Minor modifications were made based on input received at the June 2002 NPFMC meetings and a final report was delivered to NPFMC staff in mid-June, completing that portion of the research process.

- *Initiate Crab FMP EIS Specific SIA Work.* Following the completion of the BSAI Crab Rationalization Program Alternatives document, work was begun on an expanded SIA to meet the needs of the EIS. This part of the process included the following steps:

  (1) Preparation of a revised Social Impact Assessment: Overview and Community Profiles Appendix for inclusion in the Draft EIS was delivered prior to the December 2002 NPFMC meetings. This appendix represented a modification of the analogous appendix from the *BSAI Crab Rationalization Program Alternatives Public Review Draft* as presented at the June 2002 NPFMC meetings. This document was modified from the earlier version to:

  - Incorporate changes in the overview section to broaden it to cover the range of EIS alternatives on a general level (Status Quo, Preferred [Rationalization], and No Fishing) and to narrow the existing discussion of the range of rationalization alternatives to focus on the preferred alternative.

  - Revise the community profile of King Cove to incorporate information gained from fieldwork (3 days) conducted for this effort.

- Revise the community profile of Adak to incorporate information gained from fieldwork (3 days) conducted for this effort.

- Revise the community profile of Seattle to incorporate information gained from additional fieldwork (5 days) conducted for this effort.

- Add a community profile of Akutan. No fieldwork was conducted in the community. This profile is primarily on earlier community profiles produced for the NPFMC, supplemented by limited interview data from relevant entities based in Anchorage and Seattle.

- Add a community profile of Sand Point. No fieldwork was conducted in the community. This profile was based primarily on earlier community profiles produced for the NPFMC, supplemented by limited interview data from relevant entities based in Anchorage and Seattle.

- Add a community profile of St. George. This profile is based on fieldwork (3 days) conducted in the community for this project, combined with existing information and limited interview data from relevant entities based in Anchorage and Seattle.

- Revise the CDQ region profile by incorporating crab royalty information.

(2) A new Community and Social Existing Conditions section (Section 3.4.4) was prepared for the Draft EIS. This relatively brief section cross-referenced the detailed overview and community profiles appendix. It contained a summary of the relative importance of the crab fishery in the relevant communities, the varying nature of the engagement of the communities in the crab fishery, distinctions between the two analytic regions defined by the Council.

(3) A new Community/Social Effects of the Alternatives section (Section 4.6.5) was prepared for the Draft EIS. This section provided an analysis of the potential community/social impacts, by alternative, for three alternatives specified by NPFMC/National Marine Fisheries Service (NMFS): (a) the status quo alternative, (b) the preferred alternative (the 'three pie' rationalization alternative), and (c) the no fishing alternative.

(4) A new Environmental Justice Considerations section (Section 4.7) was prepared for the Draft EIS. This section presented existing conditions information on minority populations and low income populations relevant to environmental justice analysis, and provided an analysis of the potential environmental justice impacts, by alternative, for three alternatives specified by NPFMC/NMFS: (a) the status quo alternative, (b) the preferred alternative (the 'three pie' rationalization alternative), and (c) the no fishing alternative.

- *NPFMC Consultation*. The sections relevant to the social impact assessment were delivered to the NPFMC in November 2002, and were originally scheduled to be presented at the December 2002 Council meetings in Anchorage. Following the October 2002 meetings, however, the schedule changed to allow for the modification of existing alternatives and the potential creation new alternatives. New alternatives were introduced (the Individual Fishing Quota alternative and the Cooperative alternative) and existing alternatives were either modified (in the case of the three-pie alternative) or dropped (in the case of the no fishing alternative), with changes finalized at the April 2003 meetings.

- *Document Revision*. Draft EIS sections 4.6.5 and 4.7 as well as Appendix 3 were modified to incorporate changes to the preferred (three-pie) alternative, deletion of the no fishing alternative, and the addition of the IFQ alternative and the cooperative alternative. These revised sections were delivered to the NPFMC on May 1, 2003 for incorporation into the Draft EIS and presentation at the June, 2003 Council meetings.

Information Goals, Objectives, and Techniques

Methods used were similar to those used by the researchers for past NPFMC projects. General community contacts were renewed (and, where necessary, established) with key community officials to gain access to the community and collect planning documents and other contextual information. This was confined for the most part to that information required to update the existing community profile for the specific communities identified in the scope of work (initially Unalaska/Dutch Harbor, King Cove, Adak, St. Paul, Kodiak, and Seattle, with Akutan, Sand Point, and St. George added subsequently). Contacts were chosen on the basis of our prior knowledge, the official position they occupied, or the consistent recommendation of a number of fishery participants ("snowball sample" approach). Thus, the people we talked with are not a representative sample of the fishery as a whole, but rather were chosen as especially knowledgeable and/or as potentially especially linked to community effects in regard to crab rationalization and/or the other alternatives. They thus represent a judgmental sample from a select number of categories. That is, not all categories were represented, and not all were equally represented (see sampling discussion below). The intent of this strategy was not to provide a statistically random sample; rather, it was to provide access to a broad range of information to be able to characterize the direction and magnitude of changes likely to be seen in the communities as a result of implementing the proposed crab management alternatives, informed by more than a decade of working on related fisheries issues in these communities.

Implementation of this study generally followed the standards for ethnographic work and the methods of Rapid Ethnographic Assessment Procedures as outlined by the National Park Service (NPS) in the *Cultural Resource Management Guideline*, Release 4 (1994) and the NOAA Guidelines and Principals for Social Impact Assessment. Implementation of this study used multiple data collection techniques, discussed below in terms of documentary research and ethnographic research. Separate discussions are also devoted to sampling and other special considerations.

Because of the unique circumstances of this project, much of the previous literature and other documentary sources had already been compiled in previous work. Since the action to be taken was in some respects a continuation of a number of previous actions in these and related fisheries, the research required was more in the way of an update and supplementation than a complete new construction. Thus there was little need for a new literature review as such.

Industry participant and municipal official contacts were a primary means through which existing profiles were updated. Our main method was to talk with a broad range of industry participants from each of the sectors identified as important components of the fisheries -- shoreside processors (fixed location plants as well as inshore floating processors), catcher-processors, and catcher vessels. Interviews were also conducted with individuals from support service sector businesses and, in the case of the Alaska communities, with individuals knowledgeable about other community economic sectors as well as with participants in other locally pursued fisheries. As in previous projects, our conversations were guided by a research protocol so that we could collect comparable information from those people we talk with, without submitting them to the time requirements of a more formal and inflexible survey instrument. The time horizons for this project were too short to allow for the development of a formal survey instrument, which would have been subject to a lengthy review process by the Office of Management and Budget, because of the federal funding of the project. Again, as in previous projects, employment and labor participation were addressed primarily through direct industry sector contacts, although it was also part of the community profile discussion. Most specific

employment information was developed as part of the field interview process (and follow-up data requests from industry associations and individual entities).

Preliminary examples of the protocols used in the field were derived from those used in our work in support of the NPFMC's Groundfish License Limitation analysis (1994), the Inshore/Offshore-3 analysis (1998), the Groundfish SEIS (2001), and the Steller Sea Lion Protection Measures SEIS (2001). As with previous projects for the Council, these were subject to internal team review and modification following initial field contacts, but they represent the main topical or information issue areas about which relatively consistent information needed to be developed for the purposes of this project.

Compared to earlier efforts, relatively little effort was devoted to fieldwork, but the work that was conducted was crucial to the research. The ethnographic methods utilized are based on traditional anthropological and social science methods to investigate the nature and meaning of public values, attitudes, and beliefs. These schema and context data were collected through primarily open-ended, key informant interviews with persons representing different sector/community interest groups. Also, keeping in mind that a good portion of the field effort was directed toward updating information already in hand (and often collected from the same individuals or entities contacted for previous study efforts such as the AFA fieldwork that took place during 2001) for most interviews only a subset of protocol topics were pursued after some general questions were asked regarding relevant changes since the last set of interviews. Our experience has been that if the interviewee is discussing topics of interest that it is generally more efficient overall to allow him or her to guide the discussion rather than to impose the more artificial structure of direct questions. A more inflexible, formally structured, interview often produces much less direct information and very little interpretative context. The successful use of protocol interviewing of course depends upon the judgement of the interviewer but is a technique with which we have much experience. Even with a "standard" protocol, not all interviews/contacts were guided by them to the same extent. We briefly discuss several of these special interview situations below.

"Standard Protocol" Interviews: The most common interview situation involved the researcher talking with an individual about his or her participation in the fishery, but often in a group context for larger corporate fishery entities. The interview was guided by the use of a protocol that specifies certain areas of interest and topics to be covered.

Key Person Interviews: Most of the initial interviews completed were "key person" interviews. Key person interviews are conducted with people who hold central positions in public or private community organizations, or are key participants in the activity of main interest. These types of interviews are only semi-structured because the interviewees involved usually have busy schedules and time constraints. Although semi-structured interviews maintain the same open-ended quality of informal interviews, the structure of the interviews is determined by the researcher. Semi-structured interviews are usually employed in situations in which the researcher only has one chance to interview an informant. All interviews were recorded in narrative form, primarily by written notes. Upon review of the data, follow-up interviews or contacts were sometimes arranged to clarify or obtain further information.

Group Meetings: There were many occasions when we had meetings of the researcher(s) with a number of people at the same time. These were not always predictable. Often the person with whom the meeting had been arranged would have asked one or more additional employees to attend, to provide information as well as to keep them informed of our role in the NPFMC's research and information gathering to support their decision-making process. There were other occasions when a number of fishery participants would talk with us as a group, either because they all happened to be in the same place and/or because they (or we) did not have the time or flexibility to talk individually. In our experience, local people can be interested in such group meetings for a number of reasons -- to find out from the researcher what he or she is doing, to

communicate to the researcher some specific sorts of information, or to make themselves available to the researcher for whatever he or she wants to know.

Participant Observation: Participant observations are among the standard methodologies used in anthropological research. While this is a method that is best suited to longer-term work, it may nonetheless be applied on a limited basis in shorter-term fieldwork. This approach requires that the researcher establish a rapport with individuals in research communities and to engage this community and its members so that there is minimal disruption of the usual flow of everyday activity. This technique is valuable even in limited, focused efforts when there is an opportunity to engage some portion of a community about a focused topic as well as interact with individuals outside of the interview context per se. This process was facilitated by the individual researchers' previous experience. In addition to having many years of formal research experience in general, Mike Downs has been doing ethnographic research in Unalaska/Dutch Harbor (and, to a much lesser degree, Akutan) since 1982; Michael Galginaitis began working on Southwest Alaska region projects in 1985. Both Downs and Galginaitis have both worked in the communities relevant to the present work on NPFMC-specific projects since 1990.

Nonreactive Observations: Nonreactive observations are sometimes referred to as "unobtrusive" measures, and refer to a research approach that does not require the participation of an informant. Unobtrusive observations typically have little no impact on what is being studied and include all methods for studying behavior and context in which informants do not actively participate. One of this technique's main concerns is to avoid sensitizing informants to issues that are important to the researcher. Thus, researchers do not ask informants direct questions about individual behavior or community patterns of behavior. Instead, they conduct systematic observations that measure behaviors of interest in a less direct form. As an example, researchers may count vessels at various private docks or public moorage locations to gain insight into patterns of use during fishing seasons that may then be followed up on during interviews. Such measures sometimes provide insight and information that are often unobtainable through other techniques when informants are aware of the researcher or subject matter of interest, particularly where a strong potential for biasing answers exists. Nonreactive observations are especially useful when weighing conflicting information from different informants. Again, given the limited scope of the field research for this project, these techniques were of limited utility, but were employed to a degree.

Informal "Unstructured" Interviews: Informal interviews are often considered to be a form of participant observation. However, an unstructured interview differs from a conversation held during participant observations. While participant observation implies letting a "cultural consultant" define the form and content of conversations, informal interviews are clearly interviews. That is, when the researcher meets with informants, he or she has a clear plan in mind concerning conversational topics but does not have a specific set of questions that should be asked. Although the researcher establishes the general direction of the conversation, he or she maintains little control over the direction or topicality of informant's responses. The objective of this type of interviewing is to allow the informant to speak freely and at his or her own pace. These types of interviews are often useful in conjunction with more formal interviews when more than one informant is present.

Sampling

Obtaining a randomly selected and statistically representative sample was not the goal of this study. Rather, for this type of study data are needed from a non-random but systematically selected sample. The intention of this study is to identify knowledgeable "industry experts" and key fishery participants who can identify relationships and associations (both historic and current) between themselves and other fishery participants. Also targeted were community officials, and key persons in other sectors of the local economy and social structure to allow for a characterization of the role of the fishery in the local economy and a description of (and perspective on) co-occurring changes over the relevant time frame.

Given that a specific type of information is desired, and this information is not randomly distributed within the group, efficient gathering of these data required a well-defined, targeted approach. Such targeted sampling approaches include quota sampling, purposive sampling, and "snowball" or network sampling. These methods are systematic approaches to the identification of appropriate interviewees. Each is briefly described below.

Snowball sampling may be used as an entre for research with members of various interest and stakeholder groups as a means to identify the full range of groups that are similar to or different from the point of entre. Like most other research of this type, initial field data collection among any particular group identified almost always begins with informant networking. Networking is a process whereby the researcher requests several key informants to identify others who would be suitable to interview. The process begins with the researcher contacting and interviewing a person who holds a formal status in the group, such as an association executive director, or the like. The informants are apprised of the research project during the interviews, and if they are confident that the researcher will not violate group interests and values, they will usually refer the researcher to other knowledgeable individuals. This sampling technique provides an effective means of building an adequate sampling frame in short order, particularly in a small population where people are likely to be in contact with one another and when the research is focused to the point where the type of information desired is held by a relatively few individuals. Snowball sampling is also a useful tool when studying small, bounded, or difficult to locate populations. In this case, we started with the various industry and/or sector associations and worked outward in addition to recontacting individuals known from previous research.

Quota sampling can be used to a degree to assure adequate coverage of geographical areas, interest groups, and stakeholders. In quota sampling the researcher decides on the categories of interest before the research begins. The sample is selected from those predetermined categories and then a targeted number of individuals are interviewed from each category. That is, the researcher constructs a matrix describing all of the characteristics of information to be obtained. A relative proportion is assigned to each cell in the matrix, and data are collected from persons who possess the characteristics of a given cell. Of all the non-probability sampling techniques, quota sampling is closest to approximating a true random sample. In addition, it guarantees that all the research categories of interest will be represented in the study. In most instances, it is possible to indicate some sort of estimate or evaluation, since this sort of sample represents the population from which it is drawn. Under extremely good conditions, quota sampling results in a stratified random sample, but in most cases it is not possible to determine if members of all categories have had an equal chance of selection. For the purposes of this research, the relatively small number of interviews conducted in any one location, and the focus of such interviews on "key" people and sector/industry experts, would not result in any sort of random sample. In any event, however, the research did benefit from well-defined categories for the beginning "matrix" so this did not prove to be a significant difficulty.

Purposive or "judgement" sampling refers to the selection of a sample based on what the researcher believes will yield the most comprehensive understanding of the subject under study. This sampling technique is similar to quota sampling in that the researcher selects his or her target categories of inquiry based on the objectives of the research. However, for this type of sample there is no overall sampling design that dictates how many respondents from each category are needed for the study. Purposive samples are often used when a researcher wants to select only a few cases for intensive study, when conducting life history research, or when engaging in qualitative research on special populations. The potential problems of defining and enumerating the sampling universe exist for this method as well. This type of sampling, in practical terms, means keeping the design flexible so that, in the words of National Standard 8, "the analysis does not have to contain an exhaustive listing of all communities [or, by extension subcommunities or subsectors] that might fit the definition [of fishing communities]; a judgement can be made as to which are primarily affected" (Fed Reg 1997:41918). Purposive sampling allows for reasoned judgement in adjusting interview targeting strategies once the fieldwork is underway, information begins to be developed, and salient issues begin to become apparent.

Use of formal interview instruments that would require Office of Management and Budget (OMB) approval was precluded by the short time horizon and amount of resources available for the work. Further, it was recognized that representative samples in a statistical sense (at least for some communities and sectors) would not be achievable. A complete characterization of the population before sampling was infeasible (such description was, after all, one of the intended goals of the research), and the random selection (and contact) of interviewees impractical. Given these limitations, the sampling strategy was guided by a statistical description based on historical fishery participation data, with special emphasis on the most recently available information (2000 in most cases). Based on this categorization and the focus on community effects, and in view of the amount of other information already available and a judgement as to the extent of change in different sectors of the fishery since the construction of the last sector profile, the decision was made to focus on those communities with the most direct linkages to the BSAI crab fisheries – Unalaska/Dutch Harbor, Akutan, King Cove, Sand Point, Adak, St. Paul, St. George, Kodiak, and Seattle. This decision was made prior to study initiation and was made a part of the scope of work. No targets for "samples" were set in each community, primarily due to the brevity of field time in any field location, and the availability of prior information. Fieldwork for this project was in essence to "calibrate" the existing information in terms of its applicability and usefulness for this document. Target goals for the adequate description of each sector and a discussion of the dynamics of change in that sector were established.

For sectors with a small number of participants it was judged necessary to contact as high a proportion of category members as possible, within the constraints of the project. This was most pressing in the processing sectors, given the ties to the specific communities involved. For catcher processors, sampling was more problematic due to the variation in operational size within this sector. For catcher vessels, due to limitations of time and resources, and the dispersed nature of the sector, we worked though industry associations, such as United Catcher Boats for fleet level data and supplemented this with opportunistic interviews in the field and at NPFMC meetings. Catcher vessels interviews are inherently a difficult challenge, partly because of the larger number of individual entities and the variation among them, as well as the wider geographical distribution of these entities. As with the catcher processor sector, some business entities operated more than one vessel, and in those cases information obtained about individual vessel operations was less detailed than for other entity interviews. In any event, less emphasis was placed on these interviews for two reasons. First, this effort is primarily focused on community effects (not sector effects), and community effects due to potential vessel-related effects of the alternatives on communities were judged to be potentially less than for processor-related effects. Second, the time and resource constraints of the research dictated that relatively few such interviews be conducted.

Effort was also made to contact a number of fishery support service entities in each community, although we did not try to establish the sample universe. In practical terms, however, we were able to cover the range of these businesses in the smaller Alaska communities where the types of entities and the total number of these entities is few. (For Unalaska/Dutch Harbor, support service businesses were a specific focus of this research because this community has a more highly developed support service sector than other communities in the region, information on this sector was relatively undeveloped, and these businesses as a group were seen to be a likely nexus of crab management alternative-related fishery/community intersection impacts.) These interviews were used to elicit local views on community trends, in terms of fishery dynamics, from experience with previous rationalization efforts as well. For the most part, this information confirmed the information derived from other measures, which were also based on partial, rather than complete or statistically representative information (housing sales, tax revenue trends, spending in general). Interviews with "key" community officials also fit into this category, as the information derived from them was not robust enough by itself to establish any trends or conclusions, but in conjunction with other information was useful to establish at least the direction (if not the magnitude) of effects. The following table (Table A1-1) provides a summary of in-person field contacts and substantive telephone contacts.

Table A1-1 Number of Interviews by Community and Sector

Community	Sector	Count
Unalaska/Dutch Harbor	City	6
	Shore Processors (Companies)[1]	8
	Catcher Vessel Owners/Crew[2]	5
	Catcher Processors	1
	Fishery Support Service Providers	7
	Native Corporation	1
	Other Community Interests	3
Akutan[3]	City Manager/Mayor/Processor/Native Corporation/CDQ Representative	5
King Cove	City	3
	Shore Processors (Companies)	1
	Catcher Vessel Owners/Crew	7
	Fishery Support Service Providers	5
	Native Corporation	2
	Tribal Council	2
	Other Community Interests	1
Sand Point[3]	AEB Admin/Processor	2
Adak	City	4
	Shore Processor	2
	Catcher Vessel Owners/Crew[2]	2
	Fishery Support Service Providers	11
	Native Corporation/related entities	4
	Other Community Interests	7
St. Paul	City/CDQ/Native Corporation/Community Groups	14
	Shore Processors (Companies)	2
St. George	City	3
	Fisherman's Association	2
	Fishery Support Service Providers	2
	Native Corporation	1
	Tribal Council	3
	Other Community Interests	1
Kodiak	City/Borough	2
	Shore Processors (Companies)	4
	Catcher Vessel Owners	5
	Catcher Processors	1
	Fishery Support Service Providers	2
	Fishery Issue Meetings Attended	4
Seattle	Fisheries Organizations	5
	Crab Processing Companies	4
	City/Fisheries Support Service	1

Notes:
[1]Where "company" is identified in the different communities, more than one individual (and often several) may have been contacted and/or interviewed singly or in a group.
[2]Some catcher vessel owners in various communities interviewed own more than one vessel, so the number of interviews listed undercounts total vessels these interviews represent.
[3]Akutan and Sand Point profiles were compiled from existing data with no in-community interviews, but a minimal number of contacts were made as noted to update or verify a few key points.

Other Methodological Considerations

There are four interrelated concerns that should be noted regarding the data utilized in this research. These topics are industry participation, confidentiality, informed consent, and self-interest.

Industry Participation: The ability to carry out this project depended to a large extent on the active involvement of industry participants. Given the real-world constraints associated with this project, we approached industry organizations early in the study and asked for their assistance in providing aggregated data from their membership. These groups also facilitated contact with member and non-member entities alike.

Confidentiality: The tasks required for the specified scope of work impose substantial challenges in the area of guaranteeing confidentiality for those research participants who desire this protection. Any ethnographic fieldwork in small communities requires that the form of publicly disseminated products be carefully designed and written so that the privacy of individuals is protected. When this is combined with potential financial and operational confidential information concerns, these considerations are even more accentuated. A verbal process of informed consent for research participants, combined with the coding of field notes and a restrained use of information identifying individuals in public reports, is usually adequate to handle these problems. This project was less problematic in these regards than it could have been because of the clear awareness most industry participants have in these areas, and their familiarity with the NPFMC analysis and decision-making process.

Informed Consent: Informed consent is a very difficult subject, because if everyone were truly "fully informed" of all of the more remote potential consequences of their participation, this would be an extraordinarily extensive discourse, and few would be likely to participate in whatever they are being asked to do. Most social science is conducted within ethical guidelines and with verbal, or even implied, informed consent obtained. Verbal informed consent, through a disclosure of the research goals and process, as well as contractor and sponsor information, was a part of every interview, as was the question of whether the individual wished to speak with us. (Notes made about public behavior were not subject to such informed consent.)

Self-Interest: It must be recognized that much of the information, other than that derived from data sets obtained from NPFMC staff, is from parties with a vested interest in the management decisions made by the NPFMC. As such, all can contain potential sources of bias. This is not an unusual situation, however, and truly "objective" information about any human endeavor is extremely rare. The object is not to eliminate self-interested information from this research, but rather to balance that information with data from other sources.

SIA Attachment 2: Unalaska Municipal Revenue Note

The following DCED Unalaska municipal revenue table is less detailed than the information provided in the community profile itself but is provided here to allow comparability of information between Alaska communities. Table A2-1 provides information for 1999 and 2000.

Table A2-1 Unalaska Municipal Revenues, 1999 and 2000

Revenue Source	1999	2000
Local Operating Revenues		
Taxes	$11,853,490	$12,775,775
License/Permits	$13,687	$22,018
Service Charges	$566,459	$586,947
Enterprise	$10,925,442	$11,955,169
Other Local Revenue	$2,793,052	$2,351,981
Total Local Operating Revenues	$26,152,130	$27,691,890
Outside Operating Revenues		
Federal Operating	$336,193	$193,065
State Revenue Sharing	$201,088	$129,402
State Safe Communities	$125,281	$83,312
State Fish Tax Sharing	$5,164,608	$4,708,573
Other State Revenue	$1,083,384	$1,073,143
State/Federal Education Funds	$2,303,157	$2,453,287
Total Outside Revenues	$9,213,711	$8,640,782
Total Operating Revenues	**$35,365,841**	**$36,332,672**
Operating Revenue Per Capita	$8,465	$8,483
State/Federal Capital Project Revenues	$217,144	$6,828,094
TOTAL ALL REVENUES	**$35,582,985**	**$43,160,766**

Source: DCED Website, 2001, 2002

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SIA Attachment 3: Supporting Data Tables

The detailed existing conditions tables in this attachment are intended primarily to support the summary or "annual average" tables that appear in the community and social existing conditions discussion (Section 3.4.4) in the main body of this EIS. The detail provided by time-series values for 1991-2000 contained in the existing conditions tables within this section also allow for the identification of directional trends or other patterns in the data over time. These tables fall into seven different table or table series categories, including:

Series 1: Annual Average Vessel Counts
Series 2: Harvest Vessel Count Trend Data
Series 3: Harvest Value Data
Series 4: Community Fleet Dependency Data
Series 5: Processing Entity by Community and Region Data
Series 6: Processing Value by Community and Region Data
Series 7: Catcher Processor Ownership Location and Value Data

An eighth table series (Series 8: Harvest Allocation Information, Rationalization Alternatives) provides different categorization of data to provide support for the allocation output tables that appear in the analysis of alternatives discussion in Section 4.6.5 in the main body of the EIS. Each of these data tables or table series are presented in turn in this section.

Series 1: Annual Average Harvest Vessel Counts

This series consists of one table that is actually an aggregate of several component pieces. Table A3-1 enumerates the community of residence for owners of harvesting vessels (the category includes both catcher vessels and catcher processors) in the relevant BSAI crab fisheries, that is, fisheries subject to management changes under the proposed management alternatives (PMA).[1] It aggregates vessel counts over the 10-year period 1991-2000, and thus counts a vessel for each fishery that it participated in each year, but only once for each multifishery category. That is, a vessel is counted once for each year during the period for 1991-2000 for each fishery category (column) that describes a fishery or fisheries in which that vessel participated. This table (and all others that follow) does not distinguish between "qualified" and "non-qualified" PMA crab landings, although that information is theoretically available. In practical terms, however, attempting to provide descriptive information at that level of detail would result in a great number of suppressed cells in the tables that have been provided (which have a substantial number of suppressed cells even though qualified and non-qualified landings are combined). Including non-qualified landings increases the communities with one or two vessels by a substantial number but reduces later confidentiality problems and does reflect the overall historic harvest of PMA crab species by vessels from all fishing communities. Those communities with the largest number of non-qualified vessels (or vessels qualified in one fishery with non-qualified landings in another) are the same communities with the largest numbers of qualified vessels. The table further simplifies the counts by enumerating only the three largest PMA fisheries individually, and by providing more summary counts of unique vessels that participate in any of those three fisheries, in any of the other six PMA crab fisheries, and finally in any of the nine such fisheries. This last count is perhaps the most accurate or useful total, and these three summary totals allow at least broad conclusions about the different crab fisheries in which the same vessels may participate. In more general terms, Table A3-1 supports the summary count tables in the main text and demonstrates that the ownership of PMA crab fishery harvest vessels is concentrated in a few communities, with a wide dispersal of a few vessels over a large number of additional communities.

[1] In this attachment to Appendix 3, "PMA crab" is used in data tables and the accompanying summary text as an abbreviated reference to relevant BSAI crab species that are being considered for inclusion in the proposed management alternatives in this EIS (the rationalization alternatives, along with the status quo alternative). Crab species and stocks included in the proposed management alternatives include Adak (Western Aleutian Islands [WAI]) brown (golden) king crab (*Lithodes aequispina*), Adak (WAI) red king crab (*Paralithodes camtschaticus*), Bristol Bay red king crab (*P. camtschaticus*), Bering Sea opilio (snow) crab (*Chionoecetes opilio*), Bering Sea tanner (*C. bairdi*), Dutch Harbor (Eastern Aleutian Islands [EAI]) brown (golden) king crab (*L. aequispina*), Pribilof blue king crab (*P. platypus*), Pribilof red king crab (*P. camtschaticus*), and St. Matthew blue king crab (*P. platypus*). Three additional species or stocks were originally proposed for inclusion in the rationalization program but were later excluded (and do not appear in the quantitative data tables in this section) due to low levels of harvest and/or recent multi-year closures: Dutch Harbor (EAI) red king crab (*P. camtschaticus*), EAI tanner (*C. bairdi*), and WAI tanner (*C. bairdi*). The rationalization program includes Adak red king crab west of 179° W Longitude and excludes it east of this line, but the tables in this section include data for this species/stock from both sides of the line. In the tables, the "non-PMA" crab designation includes all crab species not included under the alternatives including, among others, species covered by the BSAI crab FMP but managed under state discretion via an ADF&G commissioner's permit (e.g. AI scarlet king crab [*L. couesi*]), BSAI federal waters fishery crab managed by the state and not included in the FMP (e.g., Korean hair crab [*Erimacrus isenbeckii*]), low-volume primarily state water fisheries (e.g., Aleutian District Dungeness [*Cancer magister*], or non-BSAI FMP area federal fisheries (e.g., multiple Gulf of Alaska crab fisheries).

Table A3-1. Average Annual Number of Vessels with Qualified Landings Participating in PMA Crab Fisheries (1991-2000 for years fishery open only) by State and Community

	Data	Bristol Bay Red	Bering Sea Opilio	Bering Sea Tanner	BBR/BSO/BST	Other 6 PMA Crab	All 9 PMA Crab	Non-qualified PMA	"Overlap" Vessels
Alaska	Kodiak	35.8	31.9	34.8	37.1	19.6	38.6	11.3	1.8
	Homer	7.8	7.8	8.3	8.3	4.8	8.3	1.3	0.0
	Anchorage	5.4	5.6	4.5	6.1	3.2	6.1	1.2	0.6
	Sand Point	3.6	3.1	3.5	3.8	2.6	4.5	3.4	0.5
	Petersburg	3.9	4.0	3.2	4.0	1.6	4.0	0.6	0.4
	Unalaska	1.8	2.1	1.5	3.0	2.4	3.4	0.8	0.8
	King Cove	2.9	2.1	2.7	3.1	1.4	3.1	1.9	0.8
	Cordova	1.9	1.8	2.2	2.0	0.8	2.0	1.0	0.0
	Kenai	0.8	0.9	0.5	1.0	0.0	1.0	0.1	0.1
	Seldovia	1.0	1.0	1.0	1.0	0.7	1.0	0.0	0.0
	Yakutat	0.9	0.9	1.0	1.0	0.7	1.0	0.0	0.0
	Seward	0.8	0.5	0.7	0.8	0.0	0.8	1.5	0.2
	Sitka	0.4	0.8	0.0	0.8	0.3	0.8	0.5	0.4
	Akutan	0.1	0.2	0.0	0.2	0.0	0.2	0.0	0.0
	Soldotna	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Alaska Total		66.9	62.7	63.8	72.3	38.1	74.9	25.6	5.6
Washington	Seattle	100.1	94.2	97.7	110.7	52.7	111.9	19.8	7.3
	Edmonds	9.6	7.8	7.8	10.3	4.4	10.3	1.0	0.2
	Bellevue	3.9	4.0	4.8	4.4	2.0	4.4	1.5	1.3
	Lynnwood	2.5	2.5	1.5	2.5	1.0	2.5	0.1	0.1
	Bellingham	2.0	2.1	1.7	2.3	0.6	2.3	1.8	0.7
	Mercer Island	1.6	1.9	1.5	2.0	1.6	2.0	1.2	0.0
	Milton	1.9	1.9	2.0	1.9	1.1	1.9	0.4	0.3
	Bothell	1.8	1.8	2.0	1.8	1.0	1.8	0.6	0.1
	Mill Creek	1.4	1.3	0.8	1.3	0.6	1.3	0.0	0.0
	Chehalis	1.1	1.2	0.8	1.2	0.4	1.2	0.3	0.3
	Redmond	1.5	1.2	0.8	1.2	0.8	1.2	0.3	0.0
	Snohomish	1.0	1.2	1.3	1.2	0.7	1.2	0.2	0.0
	Kirkland	1.1	1.1	1.0	1.1	0.7	1.1	0.0	0.0
	Stanwood	1.1	1.0	0.3	1.1	0.2	1.1	0.0	0.0
	Woodinville	0.8	0.9	0.8	1.1	0.5	1.1	0.0	0.0
	Cathlamet	1.0	1.0	1.0	1.0	0.7	1.0	0.1	0.1
	Olympia	0.9	1.0	0.8	1.0	0.3	1.0	0.1	0.0
	Sedro Woolley	1.0	1.0	0.7	1.0	0.1	1.0	0.0	0.0

	Data	Bristol Bay Red	Bering Sea Opilio	Bering Sea Tanner	BBR/BSO/BST	Other 6 PMA Crab	All 9 PMA Crab	Non-qualified PMA	"Overlap" Vessels
	Shoreline	1.0	1.0	0.3	1.0	0.2	1.0	0.0	0.0
	Mukilteo	1.0	0.7	0.3	0.8	0.1	0.8	0.1	0.0
	Edison	0.3	0.4	0.5	0.4	0.6	0.7	0.6	0.4
	Gig Harbor	0.4	0.5	0.3	0.5	0.5	0.5	0.0	0.0
	Issaquah	0.5	0.4	0.2	0.5	0.0	0.5	0.0	0.0
	Kent	0.5	0.5	0.2	0.5	0.0	0.5	0.3	0.3
	Poulsbo	0.6	0.4	0.2	0.5	0.1	0.5	0.2	0.2
	Bainbridge Isla	0.4	0.3	0.2	0.4	0.2	0.4	0.1	0.1
	Brier	0.5	0.4	0.7	0.4	0.2	0.4	0.0	0.0
	Carnation	0.5	0.4	0.0	0.4	0.2	0.4	0.0	0.0
	Curtis	0.5	0.4	0.3	0.4	0.3	0.4	0.0	0.0
	Manson	0.3	0.4	0.3	0.4	0.3	0.4	0.2	0.2
	Oysterville	0.5	0.0	0.0	0.4	0.0	0.4	0.0	0.0
	Sedro Wolley	0.4	0.4	0.7	0.4	0.2	0.4	0.0	0.0
	Longview	0.4	0.3	0.5	0.3	0.2	0.3	0.0	0.0
	Ocean Shores	0.1	0.3	0.5	0.3	0.2	0.3	0.0	0.0
	Camano Island	0.3	0.2	0.0	0.2	0.0	0.2	0.0	0.0
	Monroe	0.3	0.2	0.0	0.2	0.0	0.2	0.0	0.0
	Vashon	0.3	0.1	0.3	0.2	0.1	0.2	0.0	0.0
	Anacortes	0.1	0.0	0.2	0.1	0.0	0.1	0.3	0.0
	Clinton	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0
	Depoe Bay	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1
	Everett	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.0
	Federal Way	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0
	Medina	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.0
	Nahcotta	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0
	Oak Harbor	0.1	0.0	0.2	0.1	0.0	0.1	0.0	0.0
	South Bend	0.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0
Washington Total		143.8	135.2	134.3	156.3	73.1	157.8	31.9	11.7
Oregon	Newport	8.6	7.5	7.5	9.4	4.9	10.6	2.3	1.8
	Prineville	0.9	1.4	1.8	1.6	0.1	1.6	0.9	0.7
	Seal Rock	1.3	0.9	1.3	1.3	1.0	1.3	0.3	0.0
	Cascade Locks	1.0	0.9	1.0	1.0	0.6	1.0	0.3	0.0
	Warrenton	0.6	0.4	0.7	0.5	0.1	0.5	0.2	0.0
	Hammond	0.3	0.3	0.5	0.3	0.3	0.3	0.2	0.0
	South Beach	0.3	0.3	0.5	0.3	0.0	0.3	0.0	0.0
	Depoe Bay	0.3	0.2	0.0	0.2	0.0	0.2	0.1	0.0
Oregon Total		13.1	11.9	13.3	14.6	7.0	15.8	4.6	2.5

	Data	Bristol Bay Red	Bering Sea Opilio	Bering Sea Tanner	BBR/BSO/BST	Other 6 PMA Crab	All 9 PMA Crab	Non-qualified PMA	"Overlap" Vessels
Other States	Richmond CA	1.1	1.2	1.0	1.2	0.7	1.2	0.0	0.0
	Stryker MT	0.6	0.8	0.5	0.8	0.4	0.8	0.0	0.0
	Kailua HI	0.0	0.0	0.0	0.0	0.7	0.7	1.1	0.7
	Kailua Kona HI	0.5	0.6	0.3	0.6	0.4	0.6	0.0	0.0
	Emmett ID	0.4	0.4	0.7	0.4	0.4	0.4	0.0	0.0
	Swanlake MT	0.1	0.0	0.0	0.1	0.3	0.3	0.0	0.0
	Brewster MA	0.1	0.2	0.0	0.2	0.1	0.2	0.0	0.0
	Mankato MN	0.1	0.2	0.0	0.2	0.2	0.2	0.0	0.0
	Lake Havasu AZ	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0
	Lakeside MT	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.0
Other States Total		3.1	3.5	2.7	3.7	3.3	4.6	2.0	0.7
Grand Total		226.9	213.3	214.2	246.9	121.5	253.1	64.1	20.5

Notes: Shaded cells are those for which harvest information COULD NOT be disclosed, as they are confidential.
Average vessel counts for combined crab categories are based on 10 years.
Average vessel counts for individual crab fisheries are based on the number of years 1991-2000 each was actually open -- BSO 10 years; BBR 8 years; BST 6 years.
Sand Point and King Cove combined in later tables so harvest information is nonconfidential for some cells.
S-T CMSA is composed of King County, Pierce County, and Snohomish County. Those communities in this area that averaged more than 2 vessels participating in any PMA crab fishery were Seattle, Edmonds, Bellevue, Lynnwood, and Mercer Island.
Communities which averaged fewer than 2 such vessels were Milton, Bothell, Mill Creek, Redmond, Snohomish, Kirkland, Stanwood, Woodinville, Shoreline, Mukilteo, Gig Harbor, Issaquah, Kent, Bainbridge Island, Brier, Carnation, Monroe, Vashon, Depoe Bay, Everett, Federal Way, Medina, and Tacoma.
"Other States" excluded from other tables for confidentiality concerns and simplicity -- effect is not significant.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 2: Harvest Vessel Count Trend Data

The group of tables that follows provides more detailed count information for PMA crab harvester vessels by fishery category by year (1991-2000), and "community of residence" category (state, region, or city) of vessel owner. No distinction is made between qualified and non-qualified landings, so that counts include both "qualified" and "non-qualified" vessels. Fishery categories are the same three individual PMA crab fisheries and groups of fisheries as for Table A3-1, as well as additional "grouped" categories for all combined non-PMA fisheries. Grouping all these "other" fisheries together greatly reduces confidentiality concerns and simplifies presentation and makes sense as the purpose of these tables is to describe the importance of the different PMA crab fisheries to the PMA crab harvest vessels from each community (to the degree that is possible within confidentiality requirements). For the enumeration or "count" tables, the number of vessels with non-qualified PMA crab landings as well as the number of "overlap" vessels with both qualified and non-qualified landings are provided. Each vessel is counted only once per year for each applicable category. In no case does a vessel have both qualified and non-qualified landings for the same PMA crab fishery in the same year. These numbers are provided so that the reader may evaluate the harvest information and proposed allocations with some idea of the number of vessels that will be excluded from fisheries in which they had participated. As briefly discussed above, providing harvest information on vessels with non-qualified landings quickly leads to confidentiality concerns such that little, if any, quantitative information would be available. Even combining qualified and non-qualified landings, confidentiality concerns remain. The enumeration tables serve to determine confidentiality masks for subsequent harvest tables. For similar reasons, information of the number of vessels from states other than Alaska, Washington, and Oregon are provided in the enumeration tables but are excluded from the harvest tables.

Vessel enumeration tables include four subsets: overall fisheries, Alaska tables, Washington tables, and Oregon tables. These are presented each in turn.

Series 2: Harvest Vessel Count Trend Data, Subset 1 - Overall Fisheries Tables

The following are overall fishery tables, which aggregate vessels at the level of state of residence of the owner of the vessel.

- Table A3-2 provides the number of vessels participating in the fisheries categories for each year (1991-2000) by state (Alaska, Washington, Oregon, and "Other" States).

- Table A3-3 calculates the percentage of vessels participating in each fishery category from each state for each year (1991-2000), as well as the overall average percentage for the entire 10-year period, as a percentage of all vessels participating in that fishery category.

Table A3-2. Count of PMA Crab Vessels by Fishery Category, State of Vessel Owner, and Year (1991-2000)

State	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Alaska	All Fisheries other than PMA Crab	65	79	76	64	83	65	56	51	53	61	65.3
	Bristol Bay Red King Crab	102	99	96	0	0	63	78	81	67	71	82.1
	Bering Sea Opilio Crab	66	75	73	84	72	75	71	68	67	65	71.6
	Bering Sea Tanner Crab	91	101	101	55	53	64	0	0	0	0	77.5
	BBR/BSO/BST group	108	107	102	89	74	79	82	82	76	74	87.3
	Other 6 PMA Crab group	26	53	76	63	84	77	64	71	3	4	52.1
	All 9 PMA Crab group	110	108	112	100	99	89	90	89	77	75	94.9
	Non-Qualified PMA Crab	33	27	35	26	36	28	25	26	8	12	25.6
	"Overlap" Vessels	4		2	2	12	14	10	10	1	1	5.6
Washington	All Fisheries other than PMA Crab	59	80	75	69	120	84	106	83	100	102	87.8
	Bristol Bay Red King Crab	176	162	173	0	0	114	159	171	165	152	159.0
	Bering Sea Opilio Crab	140	157	165	170	163	140	137	142	153	138	150.5
	Bering Sea Tanner Crab	172	185	197	111	126	116	0	0	0	0	151.2
	BBR/BSO/BST group	186	186	200	178	175	154	172	173	180	160	176.4
	Other 6 PMA Crab group	59	125	123	125	119	109	94	110	11	11	88.6
	All 9 PMA Crab group	187	189	204	181	179	154	173	173	180	160	178.0
	Non-Qualified PMA Crab	36	32	36	31	40	32	32	37	25	18	31.9
	"Overlap" Vessels	5	3	5	7	17	26	21	23	5	5	11.7
Oregon	All Fisheries other than PMA Crab	11	17	13	11	11	9	12	12	13	14	12.3
	Bristol Bay Red King Crab	18	14	18	0	0	12	14	15	18	16	15.6
	Bering Sea Opilio Crab	12	14	13	15	12	13	13	13	14	18	13.7
	Bering Sea Tanner Crab	18	17	20	13	11	12	0	0	0	0	15.2
	BBR/BSO/BST group	19	18	20	16	14	14	16	16	19	20	17.2
	Other 6 PMA Crab group	4	8	11	11	14	10	12	13	2	2	8.7
	All 9 PMA Crab group	20	19	21	17	16	14	16	17	19	20	17.9
	Non-Qualified PMA Crab	4	3	4	2	6	5	4	7	6	5	4.6
	"Overlap" Vessels	1		1	1	5	5	4	4	2	2	2.5
Total AK/WA/OR	All Fisheries other than PMA Crab	135	176	164	144	214	158	174	146	166	177	165.4
	Bristol Bay Red King Crab	296	275	287	0	0	189	251	267	250	239	256.8
	Bering Sea Opilio Crab	218	246	251	269	247	228	221	223	234	221	235.8
	Bering Sea Tanner Crab	281	303	318	179	190	192	0	0	0	0	243.8
	BBR/BSO/BST group	313	311	322	283	263	247	270	271	275	254	280.9
	Other 6 PMA Crab group	89	186	210	199	217	196	170	194	16	17	149.4
	All 9 PMA Crab group	317	316	337	298	294	257	279	279	276	255	290.8
	Non-Qualified PMA Crab	73	62	75	59	82	65	61	70	39	35	62.1
	"Overlap" Vessels	10	3	8	10	34	45	35	37	8	8	19.8

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-3. PMA Crab Vessels by Fishery Category, State of Vessel Owner, and Year (1991-2000) as a Percentage of Total Vessels (all States)

State	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Alaska	All Fisheries other than PMA Crab	48.1%	44.9%	46.3%	44.4%	38.8%	41.1%	32.2%	34.9%	31.9%	34.5%	39.5%
	Bristol Bay Red King Crab	34.5%	36.0%	33.4%			33.3%	31.1%	30.3%	26.8%	29.7%	32.0%
	Bering Sea Opilio Crab	30.3%	30.5%	29.1%	31.2%	29.1%	32.9%	32.1%	30.5%	28.6%	29.4%	30.4%
	Bering Sea Tanner Crab	32.4%	33.3%	31.8%	30.7%	27.9%	33.3%					31.8%
	BBR/BSO/BST group	34.5%	34.4%	31.7%	31.4%	28.1%	32.0%	30.4%	30.3%	27.6%	29.1%	31.1%
	Other 6 PMA Crab group	29.2%	28.5%	36.2%	31.7%	38.7%	39.3%	37.6%	36.6%	18.8%	23.5%	34.9%
	All 9 PMA Crab group	34.7%	34.2%	33.2%	33.6%	33.7%	34.6%	32.3%	31.9%	27.9%	29.4%	32.6%
	Non-Qualified PMA Crab	45.2%	43.5%	46.7%	44.1%	43.9%	43.1%	41.0%	37.1%	20.5%	34.3%	41.2%
	"Overlap" Vessels	40.0%	0.0%	25.0%	20.0%	35.3%	31.1%	28.6%	27.0%	12.5%	12.5%	28.3%
Washington	All Fisheries other than PMA Crab	43.7%	45.5%	45.7%	47.9%	56.1%	53.2%	60.9%	56.8%	60.2%	57.6%	53.1%
	Bristol Bay Red King Crab	59.5%	58.9%	60.3%			60.3%	63.3%	64.0%	66.0%	63.6%	61.9%
	Bering Sea Opilio Crab	64.2%	63.8%	65.7%	63.2%	66.0%	61.4%	62.0%	63.7%	65.4%	62.4%	63.8%
	Bering Sea Tanner Crab	61.2%	61.1%	61.9%	62.0%	66.3%	60.4%					62.0%
	BBR/BSO/BST group	59.4%	59.8%	62.1%	62.9%	66.5%	62.3%	63.7%	63.8%	65.5%	63.0%	62.8%
	Other 6 PMA Crab group	66.3%	67.2%	58.6%	62.8%	54.8%	55.6%	55.3%	56.7%	68.8%	64.7%	59.3%
	All 9 PMA Crab group	59.0%	59.8%	60.5%	60.7%	60.9%	59.9%	62.0%	62.0%	65.2%	62.7%	61.2%
	Non-Qualified PMA Crab	49.3%	51.6%	48.0%	52.5%	48.8%	49.2%	52.5%	52.9%	64.1%	51.4%	51.4%
	"Overlap" Vessels	50.0%	100.0%	62.5%	70.0%	50.0%	57.8%	60.0%	62.2%	62.5%	62.5%	59.1%
Oregon	All Fisheries other than PMA Crab	8.1%	9.7%	7.9%	7.6%	5.1%	5.7%	6.9%	8.2%	7.8%	7.9%	7.4%
	Bristol Bay Red King Crab	6.1%	5.1%	6.3%			6.3%	5.6%	5.6%	7.2%	6.7%	6.1%
	Bering Sea Opilio Crab	5.5%	5.7%	5.2%	5.6%	4.9%	5.7%	5.9%	5.8%	6.0%	8.1%	5.8%
	Bering Sea Tanner Crab	6.4%	5.6%	6.3%	7.3%	5.8%	6.3%					6.2%
	BBR/BSO/BST group	6.1%	5.8%	6.2%	5.7%	5.3%	5.7%	5.9%	5.9%	6.9%	7.9%	6.1%
	Other 6 PMA Crab group	4.5%	4.3%	5.2%	5.5%	6.5%	5.1%	7.1%	6.7%	12.5%	11.8%	5.8%
	All 9 PMA Crab group	6.3%	6.0%	6.2%	5.7%	5.4%	5.4%	5.7%	6.1%	6.9%	7.8%	6.2%
	Non-Qualified PMA Crab	5.5%	4.8%	5.3%	3.4%	7.3%	7.7%	6.6%	10.0%	15.4%	14.3%	7.4%
	"Overlap" Vessels	10.0%	0.0%	12.5%	10.0%	14.7%	11.1%	11.4%	10.8%	25.0%	25.0%	12.6%
Totals	All Fisheries other than PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bristol Bay Red King Crab	100.0%	100.0%	100.0%			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Opilio Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Tanner Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%
	BBR/BSO/BST group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other 6 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All 9 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Non-Qualified PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	"Overlap" Vessels	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 2: Harvest Vessel Count Trend Data, Subset 2 - State of Alaska Tables

The following are State of Alaska tables that aggregate vessels at the level of the named community (or area) of residence of the owner of the vessel, for those communities for which harvest information is potentially non-confidential, by fishery category and year. Named communities for Alaska tables are Anchorage, Homer, Kodiak, King Cove and Sand Point combined, and all other Alaska communities combined.

- Table A3-4 provides the number of vessels participating in the fisheries categories for each year by named community as well as for the state as a whole and then for each fishery as a whole (all states combined).

- Table A3-5 displays the vessels participating in each fishery category from each named community for each year, as well as the overall average percentage for the entire 10-year period, as a percentage of all Alaska boats participating in that fishery category.

- Table A3-6 displays the vessels participating in each fishery category from each named community for each year, as well as the overall average percentage for the entire 10-year period, as a percentage of all vessels (from all states) participating in that fishery category.

Table A3-4. Count of PMA Crab Vessels from Alaska by Fishery Category and Year (1991-2000)

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Anchorage	All Fisheries other than PMA Crab	4	4	4	3	7	5	2	1	2	3	3.5
	Bristol Bay Red King Crab	6	5	5	0	0	7	6	6	6	5	5.8
	Bering Sea Opilio Crab	4	2	5	6	8	8	7	6	6	5	5.7
	Bering Sea Tanner Crab	4	4	5	2	7	7	0	0	0	0	4.8
	BBR/BSO/BST group	7	5	6	6	8	8	7	6	6	6	6.5
	Other 6 PMA Crab group	2	2	4	4	7	7	6	5	1	1	3.9
	All 9 PMA Crab group	7	5	7	7	8	8	7	6	6	6	6.7
	Non-Qualified PMA Crab	2	1	2	3	1	1	1	1	0	0	1.2
	"Overlap" Vessels	1			1	1	1	1	1			0.6
Homer	All Fisheries other than PMA Crab	10	11	12	9	8	6	5	6	7	7	8.1
	Bristol Bay Red King Crab	10	12	12	0	0	7	9	8	8	8	9.3
	Bering Sea Opilio Crab	7	7	8	10	9	9	7	8	8	8	8.1
	Bering Sea Tanner Crab	8	12	12	9	8	7	0	0	0	0	9.3
	BBR/BSO/BST group	11	12	12	10	9	9	9	8	8	8	9.6
	Other 6 PMA Crab group	1	4	7	8	7	7	6	8	0	0	4.8
	All 9 PMA Crab group	11	12	12	10	9	9	9	8	8	8	9.6
	Non-Qualified PMA Crab	3	3	3	1	0	0	1	0	1	1	1.3
	"Overlap" Vessels											0.0
King Cove/Sand Point	All Fisheries other than PMA Crab	2	4	7	10	23	13	8	6	4	7	8.4
	Bristol Bay Red King Crab	6	6	7	0	0	7	8	8	6	8	7.0
	Bering Sea Opilio Crab	3	3	5	7	7	7	6	6	4	5	5.3
	Bering Sea Tanner Crab	5	6	7	7	6	7	0	0	0	0	6.3
	BBR/BSO/BST group	6	6	7	8	8	8	8	8	6	8	7.3
	Other 6 PMA Crab group	2	4	7	11	25	16	9	10	0	0	8.4
	All 9 PMA Crab group	6	6	10	12	26	17	12	11	6	8	11.4
	Non-Qualified PMA Crab	0	0	3	4	20	11	5	5	0	3	5.1
	"Overlap" Vessels				1	4	3	1	2			1.1
Kodiak	All Fisheries other than PMA Crab	37	47	40	32	34	31	29	29	31	34	34.4
	Bristol Bay Red King Crab	60	59	57	0	0	31	37	39	35	36	44.3
	Bering Sea Opilio Crab	37	50	44	47	32	35	34	31	33	35	37.8
	Bering Sea Tanner Crab	55	61	59	30	25	32	0	0	0	0	43.7
	BBR/BSO/BST group	62	64	59	50	32	36	38	40	39	38	45.8
	Other 6 PMA Crab group	19	34	45	28	31	32	32	33	2	3	25.9
	All 9 PMA Crab group	64	65	63	53	39	37	39	42	40	39	48.1
	Non-Qualified PMA Crab	21	19	20	14	7	7	9	9	3	4	11.3
	"Overlap" Vessels	2				2	4	6	4			1.8
Other Alaska	All Fisheries other than PMA Crab	12	13	13	10	11	10	12	9	9	10	10.9
	Bristol Bay Red King Crab	20	17	15	0	0	11	18	20	12	14	15.9
	Bering Sea Opilio Crab	15	13	11	14	16	16	17	17	16	12	14.7
	Bering Sea Tanner Crab	19	18	18	7	7	11	0	0	0	0	13.3
	BBR/BSO/BST group	22	20	18	15	17	18	20	20	17	14	18.1
	Other 6 PMA Crab group	2	9	13	12	14	15	11	15	0	0	9.1
	All 9 PMA Crab group	22	20	20	18	17	18	23	22	17	14	19.1

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
	Non-Qualified PMA Crab	7	4	7	4	8	9	9	11	4	4	6.7
	"Overlap" Vessels	1		2		5	6	2	3	1	1	2.1
Total Alaska	All Fisheries other than PMA Crab	65	79	76	64	83	65	56	51	53	61	65.3
	Bristol Bay Red King Crab	102	99	96	0	0	63	78	81	67	71	82.1
	Bering Sea Opilio Crab	66	75	73	84	72	75	71	68	67	65	71.6
	Bering Sea Tanner Crab	91	101	101	55	53	64	0	0	0	0	77.5
	BBR/BSO/BST group	108	107	102	89	74	79	82	82	76	74	87.3
	Other 6 PMA Crab group	26	53	76	63	84	77	64	71	3	4	52.1
	All 9 PMA Crab group	110	108	112	100	99	89	90	89	77	75	94.9
	Non-Qualified PMA Crab	33	27	35	26	36	28	25	26	8	12	25.6
	"Overlap" Vessels	4		2	2	12	14	10	10	1	1	5.6
Total AK/WA/OR	All Fisheries other than PMA Crab	135	176	164	144	214	158	174	146	166	177	165.4
	Bristol Bay Red King Crab	296	275	287	0	0	189	251	267	250	239	256.8
	Bering Sea Opilio Crab	218	246	251	269	247	228	221	223	234	221	235.8
	Bering Sea Tanner Crab	281	303	318	179	190	192	0	0	0	0	243.8
	BBR/BSO/BST group	313	311	322	283	263	247	270	271	275	254	280.9
	Other 6 PMA Crab group	89	186	210	199	217	196	170	194	16	17	149.4
	All 9 PMA Crab group	317	316	337	298	294	257	279	279	276	255	290.8
	Non-Qualified PMA Crab	73	62	75	59	82	65	61	70	39	35	62.1
	"Overlap" Vessels	10	3	8	10	34	45	35	37	8	8	19.8

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-5. PMA Crab Vessels from Alaska by Fishery Category and Year (1991-2000) as Percentage of Total Alaskan Vessels in each Fishery Category

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Anchorage	All Fisheries other than PMA Crab	6.2%	5.1%	5.3%	4.7%	8.4%	7.7%	3.6%	2.0%	3.8%	4.9%	5.4%
	Bristol Bay Red King Crab	5.9%	5.1%	5.2%			11.1%	7.7%	7.4%	9.0%	7.0%	7.0%
	Bering Sea Opilio Crab	6.1%	2.7%	6.8%	7.1%	11.1%	10.7%	9.9%	8.8%	9.0%	7.7%	8.0%
	Bering Sea Tanner Crab	4.4%	4.0%	5.0%	3.6%	13.2%	10.9%					6.2%
	BBR/BSO/BST group	6.5%	4.7%	5.9%	6.7%	10.8%	10.1%	8.5%	7.3%	7.9%	8.1%	7.4%
	Other 6 PMA Crab group	7.7%	3.8%	5.3%	6.3%	8.3%	9.1%	9.4%	7.0%	33.3%	25.0%	7.5%
	All 9 PMA Crab group	6.4%	4.6%	6.3%	7.0%	8.1%	9.0%	7.8%	6.7%	7.8%	8.0%	7.1%
	Non-Qualified PMA Crab	6.1%	3.7%	5.7%	11.5%	2.8%	3.6%	4.0%	3.8%	0.0%	0.0%	4.7%
	"Overlap" Vessels	25.0%		0.0%	50.0%	8.3%	7.1%	10.0%	10.0%	0.0%	0.0%	10.7%
Homer	All Fisheries other than PMA Crab	15.4%	13.9%	15.8%	14.1%	9.6%	9.2%	8.9%	11.8%	13.2%	11.5%	12.4%
	Bristol Bay Red King Crab	9.8%	12.1%	12.5%			11.1%	11.5%	9.9%	11.9%	11.3%	11.3%
	Bering Sea Opilio Crab	10.6%	9.3%	11.0%	11.9%	12.5%	12.0%	9.9%	11.8%	11.9%	12.3%	11.3%
	Bering Sea Tanner Crab	8.8%	11.9%	11.9%	16.4%	15.1%	10.9%					12.0%
	BBR/BSO/BST group	10.2%	11.2%	11.8%	11.2%	12.2%	11.4%	11.0%	9.8%	10.5%	10.8%	11.0%
	Other 6 PMA Crab group	3.8%	7.5%	9.2%	12.7%	8.3%	9.1%	9.4%	11.3%	0.0%	0.0%	9.2%
	All 9 PMA Crab group	10.0%	11.1%	10.7%	10.0%	9.1%	10.1%	10.0%	9.0%	10.4%	10.7%	10.1%
	Non-Qualified PMA Crab	9.1%	11.1%	8.6%	3.8%	0.0%	0.0%	4.0%	0.0%	12.5%	8.3%	5.1%
	"Overlap" Vessels	0.0%		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
King Cove/Sand Point	All Fisheries other than PMA Crab	3.1%	5.1%	9.2%	15.6%	27.7%	20.0%	14.3%	11.8%	7.5%	11.5%	12.9%
	Bristol Bay Red King Crab	5.9%	6.1%	7.3%			11.1%	10.3%	9.9%	9.0%	11.3%	8.5%
	Bering Sea Opilio Crab	4.5%	4.0%	6.8%	8.3%	9.7%	9.3%	8.5%	8.8%	6.0%	7.7%	7.4%
	Bering Sea Tanner Crab	5.5%	5.9%	6.9%	12.7%	11.3%	10.9%					8.2%
	BBR/BSO/BST group	5.6%	5.6%	6.9%	9.0%	10.8%	10.1%	9.8%	9.8%	7.9%	10.8%	8.4%
	Other 6 PMA Crab group	7.7%	7.5%	9.2%	17.5%	29.8%	20.8%	14.1%	14.1%	0.0%	0.0%	16.1%
	All 9 PMA Crab group	5.5%	5.6%	8.9%	12.0%	26.3%	19.1%	13.3%	12.4%	7.8%	10.7%	12.0%
	Non-Qualified PMA Crab	0.0%	0.0%	8.6%	15.4%	55.6%	39.3%	20.0%	19.2%	0.0%	25.0%	19.9%
	"Overlap" Vessels	0.0%		0.0%	50.0%	33.3%	21.4%	10.0%	20.0%	0.0%	0.0%	19.6%
Kodiak	All Fisheries other than PMA Crab	56.9%	59.5%	52.6%	50.0%	41.0%	47.7%	51.8%	56.9%	58.5%	55.7%	52.7%
	Bristol Bay Red King Crab	58.8%	59.6%	59.4%			49.2%	47.4%	48.1%	52.2%	50.7%	53.9%
	Bering Sea Opilio Crab	56.1%	66.7%	60.3%	56.0%	44.4%	46.7%	47.9%	45.6%	49.3%	53.8%	52.8%
	Bering Sea Tanner Crab	60.4%	60.4%	58.4%	54.5%	47.2%	50.0%					56.3%
	BBR/BSO/BST group	57.4%	59.8%	57.8%	56.2%	43.2%	45.6%	46.3%	48.8%	51.3%	51.4%	52.5%
	Other 6 PMA Crab group	73.1%	64.2%	59.2%	44.4%	36.9%	41.6%	50.0%	46.5%	66.7%	75.0%	49.7%
	All 9 PMA Crab group	58.2%	60.2%	56.3%	53.0%	39.4%	41.6%	43.3%	47.2%	51.9%	52.0%	50.7%
	Non-Qualified PMA Crab	63.6%	70.4%	57.1%	53.8%	19.4%	25.0%	36.0%	34.6%	37.5%	33.3%	44.1%
	"Overlap" Vessels	50.0%		0.0%	0.0%	16.7%	28.6%	60.0%	40.0%	0.0%	0.0%	32.1%
Other Alaska	All Fisheries other than PMA Crab	18.5%	16.5%	17.1%	15.6%	13.3%	15.4%	21.4%	17.6%	17.0%	16.4%	16.7%
	Bristol Bay Red King Crab	19.6%	17.2%	15.6%			17.5%	23.1%	24.7%	17.9%	19.7%	19.3%
	Bering Sea Opilio Crab	22.7%	17.3%	15.1%	16.7%	22.2%	21.3%	23.9%	25.0%	23.9%	18.5%	20.5%
	Bering Sea Tanner Crab	20.9%	17.8%	17.8%	12.7%	13.2%	17.2%					17.2%
	BBR/BSO/BST group	20.4%	18.7%	17.6%	16.9%	23.0%	22.8%	24.4%	24.4%	22.4%	18.9%	20.7%
	Other 6 PMA Crab group	7.7%	17.0%	17.1%	19.0%	16.7%	19.5%	17.2%	21.1%	0.0%	0.0%	17.5%
	All 9 PMA Crab group	20.0%	18.5%	17.9%	18.0%	17.2%	20.2%	25.6%	24.7%	22.1%	18.7%	20.1%

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
	Non-Qualified PMA Crab	21.2%	14.8%	20.0%	15.4%	22.2%	32.1%	36.0%	42.3%	50.0%	33.3%	26.2%
	"Overlap" Vessels	25.0%		100.0%	0.0%	41.7%	42.9%	20.0%	30.0%	100.0%	100.0%	37.5%
Total Alaska	All Fisheries other than PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bristol Bay Red King Crab	100.0%	100.0%	100.0%			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Opilio Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Tanner Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%
	BBR/BSO/BST group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other 6 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All 9 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Non-Qualified PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	"Overlap" Vessels	100.0%		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-6. PMA Crab Vessels from Alaska by Fishery Category and Year (1991-2000) as Percentage of Total Vessels (all States) in each Fishery Category

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Anchorage	All Fisheries other than PMA Crab	3.0%	2.3%	2.4%	2.1%	3.3%	3.2%	1.1%	0.7%	1.2%	1.7%	2.1%
	Bristol Bay Red King Crab	2.0%	1.8%	1.7%			3.7%	2.4%	2.2%	2.4%	2.1%	2.2%
	Bering Sea Opilio Crab	1.8%	0.8%	2.0%	2.2%	3.2%	3.5%	3.2%	2.7%	2.6%	2.3%	2.4%
	Bering Sea Tanner Crab	1.4%	1.3%	1.6%	1.1%	3.7%	3.6%					2.0%
	BBR/BSO/BST group	2.2%	1.6%	1.9%	2.1%	3.0%	3.2%	2.6%	2.2%	2.2%	2.4%	2.3%
	Other 6 PMA Crab group	2.2%	1.1%	1.9%	2.0%	3.2%	3.6%	3.5%	2.6%	6.3%	5.9%	2.6%
	All 9 PMA Crab group	2.2%	1.6%	2.1%	2.3%	2.7%	3.1%	2.5%	2.2%	2.2%	2.4%	2.3%
	Non-Qualified PMA Crab	2.7%	1.6%	2.7%	5.1%	1.2%	1.5%	1.6%	1.4%	0.0%	0.0%	1.9%
	"Overlap" Vessels	10.0%	0.0%	0.0%	10.0%	2.9%	2.2%	2.9%	2.7%	0.0%	0.0%	3.0%
Homer	All Fisheries other than PMA Crab	7.4%	6.3%	7.3%	6.3%	3.7%	3.8%	2.9%	4.1%	4.2%	4.0%	4.9%
	Bristol Bay Red King Crab	3.4%	4.4%	4.2%			3.7%	3.6%	3.0%	3.2%	3.3%	3.6%
	Bering Sea Opilio Crab	3.2%	2.8%	3.2%	3.7%	3.6%	3.9%	3.2%	3.6%	3.4%	3.6%	3.4%
	Bering Sea Tanner Crab	2.8%	4.0%	3.8%	5.0%	4.2%	3.6%					3.8%
	BBR/BSO/BST group	3.5%	3.9%	3.7%	3.5%	3.4%	3.6%	3.3%	3.0%	2.9%	3.1%	3.4%
	Other 6 PMA Crab group	1.1%	2.2%	3.3%	4.0%	3.2%	3.6%	3.5%	4.1%	0.0%	0.0%	3.2%
	All 9 PMA Crab group	3.5%	3.8%	3.6%	3.4%	3.1%	3.5%	3.2%	2.9%	2.9%	3.1%	3.3%
	Non-Qualified PMA Crab	4.1%	4.8%	4.0%	1.7%	0.0%	0.0%	1.6%	0.0%	2.6%	2.9%	2.1%
	"Overlap" Vessels	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
King Cove/Sand Point	All Fisheries other than PMA Crab	1.5%	2.3%	4.3%	6.9%	10.7%	8.2%	4.6%	4.1%	2.4%	4.0%	5.1%
	Bristol Bay Red King Crab	2.0%	2.2%	2.4%			3.7%	3.2%	3.0%	2.4%	3.3%	2.7%
	Bering Sea Opilio Crab	1.4%	1.2%	2.0%	2.6%	2.8%	3.1%	2.7%	2.7%	1.7%	2.3%	2.2%
	Bering Sea Tanner Crab	1.8%	2.0%	2.2%	3.9%	3.2%	3.6%					2.6%
	BBR/BSO/BST group	1.9%	1.9%	2.2%	2.8%	3.0%	3.2%	3.0%	3.0%	2.2%	3.1%	2.6%
	Other 6 PMA Crab group	2.2%	2.2%	3.3%	5.5%	11.5%	8.2%	5.3%	5.2%	0.0%	0.0%	5.6%
	All 9 PMA Crab group	1.9%	1.9%	3.0%	4.0%	8.8%	6.6%	4.3%	3.9%	2.2%	3.1%	3.9%
	Non-Qualified PMA Crab	0.0%	0.0%	4.0%	6.8%	24.4%	16.9%	8.2%	7.1%	0.0%	8.6%	8.2%
	"Overlap" Vessels	0.0%	0.0%	0.0%	10.0%	11.8%	6.7%	2.9%	5.4%	0.0%	0.0%	5.6%
Kodiak	All Fisheries other than PMA Crab	27.4%	26.7%	24.4%	22.2%	15.9%	19.6%	16.7%	19.9%	18.7%	19.2%	20.8%
	Bristol Bay Red King Crab	20.3%	21.5%	19.9%			16.4%	14.7%	14.6%	14.0%	15.1%	17.2%
	Bering Sea Opilio Crab	17.0%	20.3%	17.5%	17.5%	13.0%	15.4%	15.4%	13.9%	14.1%	15.8%	16.0%
	Bering Sea Tanner Crab	19.6%	20.1%	18.6%	16.8%	13.2%	16.7%					17.9%
	BBR/BSO/BST group	19.8%	20.6%	18.3%	17.7%	12.2%	14.6%	14.1%	14.8%	14.2%	15.0%	16.3%
	Other 6 PMA Crab group	21.3%	18.3%	21.4%	14.1%	14.3%	16.3%	18.8%	17.0%	12.5%	17.6%	17.3%
	All 9 PMA Crab group	20.2%	20.6%	18.7%	17.8%	13.3%	14.4%	14.0%	15.1%	14.5%	15.3%	16.5%
	Non-Qualified PMA Crab	28.8%	30.6%	26.7%	23.7%	8.5%	10.8%	14.8%	12.9%	7.7%	11.4%	18.2%
	"Overlap" Vessels	20.0%	0.0%	0.0%	0.0%	5.9%	8.9%	17.1%	10.8%	0.0%	0.0%	9.1%
Other Alaska	All Fisheries other than PMA Crab	8.9%	7.4%	7.9%	6.9%	5.1%	6.3%	6.9%	6.2%	5.4%	5.6%	6.6%
	Bristol Bay Red King Crab	6.8%	6.2%	5.2%			5.8%	7.2%	7.5%	4.8%	5.9%	6.2%
	Bering Sea Opilio Crab	6.9%	5.3%	4.4%	5.2%	6.5%	7.0%	7.7%	7.6%	6.8%	5.4%	6.2%
	Bering Sea Tanner Crab	6.8%	5.9%	5.7%	3.9%	3.7%	5.7%					5.5%
	BBR/BSO/BST group	7.0%	6.4%	5.6%	5.3%	6.5%	7.3%	7.4%	7.4%	6.2%	5.5%	6.4%
	Other 6 PMA Crab group	2.2%	4.8%	6.2%	6.0%	6.5%	7.7%	6.5%	7.7%	0.0%	0.0%	6.1%

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
	All 9 PMA Crab group	6.9%	6.3%	5.9%	6.0%	5.8%	7.0%	8.2%	7.9%	6.2%	5.5%	6.6%
	Non-Qualified PMA Crab	9.6%	6.5%	9.3%	6.8%	9.8%	13.8%	14.8%	15.7%	10.3%	11.4%	10.8%
	"Overlap" Vessels	10.0%	0.0%	25.0%	0.0%	14.7%	13.3%	5.7%	8.1%	12.5%	12.5%	10.6%
Total Alaska	All Fisheries other than PMA Crab	48.1%	44.9%	46.3%	44.4%	38.8%	41.1%	32.2%	34.9%	31.9%	34.5%	39.5%
	Bristol Bay Red King Crab	34.5%	36.0%	33.4%			33.3%	31.1%	30.3%	26.8%	29.7%	32.0%
	Bering Sea Opilio Crab	30.3%	30.5%	29.1%	31.2%	29.1%	32.9%	32.1%	30.5%	28.6%	29.4%	30.4%
	Bering Sea Tanner Crab	32.4%	33.3%	31.8%	30.7%	27.9%	33.3%					31.8%
	BBR/BSO/BST group	34.5%	34.4%	31.7%	31.4%	28.1%	32.0%	30.4%	30.3%	27.6%	29.1%	31.1%
	Other 6 PMA Crab group	29.2%	28.5%	36.2%	31.7%	38.7%	39.3%	37.6%	36.6%	18.8%	23.5%	34.9%
	All 9 PMA Crab group	34.7%	34.2%	33.2%	33.6%	33.7%	34.6%	32.3%	31.9%	27.9%	29.4%	32.6%
	Non-Qualified PMA Crab	45.2%	43.5%	46.7%	44.1%	43.9%	43.1%	41.0%	37.1%	20.5%	34.3%	41.2%
	"Overlap" Vessels	40.0%	0.0%	25.0%	20.0%	35.3%	31.1%	28.6%	27.0%	12.5%	12.5%	28.3%

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 2: Harvest Vessel Count Trend Data, Subset 3 - State of Washington Tables

The following are State of Washington tables that aggregate vessels at the level of the named community of residence of the owner of the vessel, for those communities for which harvest information is potentially non-confidential, by fishery category and year. Named communities for Washington tables are the Seattle-Tacoma Consolidated Metropolitan Statistical Area (S-T CMSA) and "Other Washington."

- Table A3-7 provides the number of vessels participating in the fisheries categories for each year by named community as well as for the state as a whole and for the total fishery categories (all states) as a whole.

- Table A3-8 displays the vessels participating in each fishery category from each named community for each year, as well as the overall average percentage for the entire 10-year period, as a percentage of all Washington boats participating in that fishery category.

- Table A3-9 displays the vessels participating in each fishery category from each named community for each year, as well as the overall average percentage for the entire 10-year period, as a percentage of all vessels (from all states) participating in that fishery category.

Table A3-7. Count of PMA Crab Vessels from Washington by Fishery Category and Year (1991-2000)

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Other Washington	All Fisheries other than PMA Crab	6	8	8	6	9	5	8	7	8	8	7.3
	Bristol Bay Red King Crab	15	11	15	0	0	9	13	14	15	13	13.1
	Bering Sea Opilio Crab	9	10	13	16	14	11	12	12	13	11	12.1
	Bering Sea Tanner Crab	14	14	16	11	7	9	0	0	0	0	11.8
	BBR/BSO/BST group	16	14	16	16	14	12	14	14	15	13	14.4
	Other 6 PMA Crab group	3	9	11	12	11	7	6	11	0	0	7.0
	All 9 PMA Crab group	16	14	18	16	16	12	14	14	15	13	14.8
	Non-Qualified PMA Crab	5	4	7	7	8	6	6	7	4	4	5.8
	"Overlap" Vessels		1	2	4	2	3	4	4			2.0
S-T CMSA	All Fisheries other than PMA Crab	53	72	67	63	111	79	98	76	92	94	80.5
	Bristol Bay Red King Crab	161	151	158	0	0	105	146	157	150	139	145.9
	Bering Sea Opilio Crab	131	147	152	154	149	129	125	130	140	127	138.4
	Bering Sea Tanner Crab	158	171	181	100	119	107	0	0	0	0	139.3
	BBR/BSO/BST group	170	172	184	162	161	142	158	159	165	147	162.0
	Other 6 PMA Crab group	56	116	112	113	108	102	88	99	11	11	81.6
	All 9 PMA Crab group	171	175	186	165	163	142	159	159	165	147	163.2
	Non-Qualified PMA Crab	31	28	29	24	32	26	26	30	21	14	26.1
	"Overlap" Vessels	5	2	3	3	15	23	17	19	5	5	9.7
Total WA	All Fisheries other than PMA Crab	59	80	75	69	120	84	106	83	100	102	87.8
	Bristol Bay Red King Crab	176	162	173	0	0	114	159	171	165	152	159.0
	Bering Sea Opilio Crab	140	157	165	170	163	140	137	142	153	138	150.5
	Bering Sea Tanner Crab	172	185	197	111	126	116	0	0	0	0	151.2
	BBR/BSO/BST group	186	186	200	178	175	154	172	173	180	160	176.4
	Other 6 PMA Crab group	59	125	123	125	119	109	94	110	11	11	88.6
	All 9 PMA Crab group	187	189	204	181	179	154	173	173	180	160	178.0
	Non-Qualified PMA Crab	36	32	36	31	40	32	32	37	25	18	31.9
	"Overlap" Vessels	5	3	5	7	17	26	21	23	5	5	11.7
Total AK/WA/OR	All Fisheries other than PMA Crab	135	176	164	144	214	158	174	146	166	177	165.4
	Bristol Bay Red King Crab	296	275	287	0	0	189	251	267	250	239	256.8
	Bering Sea Opilio Crab	218	246	251	269	247	228	221	223	234	221	235.8
	Bering Sea Tanner Crab	281	303	318	179	190	192	0	0	0	0	243.8
	BBR/BSO/BST group	313	311	322	283	263	247	270	271	275	254	280.9
	Other 6 PMA Crab group	89	186	210	199	217	196	170	194	16	17	149.4
	All 9 PMA Crab group	317	316	337	298	294	257	279	279	276	255	290.8
	Non-Qualified PMA Crab	73	62	75	59	82	65	61	70	39	35	62.1
	"Overlap" Vessels	10	3	8	10	34	45	35	37	8	8	19.8

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-8. PMA Crab Vessels from Washington by Fishery Category and Year (1991-2000) as Percentage of Total Washington Vessels in each Fishery Category

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Other Washington	All Fisheries other than PMA Crab	10.2%	10.0%	10.7%	8.7%	7.5%	6.0%	7.5%	8.4%	8.0%	7.8%	8.3%
	Bristol Bay Red King Crab	8.5%	6.8%	8.7%			7.9%	8.2%	8.2%	9.1%	8.6%	8.3%
	Bering Sea Opilio Crab	6.4%	6.4%	7.9%	9.4%	8.6%	7.9%	8.8%	8.5%	8.5%	8.0%	8.0%
	Bering Sea Tanner Crab	8.1%	7.6%	8.1%	9.9%	5.6%	7.8%					7.8%
	BBR/BSO/BST group	8.6%	7.5%	8.0%	9.0%	8.0%	7.8%	8.1%	8.1%	8.3%	8.1%	8.2%
	Other 6 PMA Crab group	5.1%	7.2%	8.9%	9.6%	9.2%	6.4%	6.4%	10.0%	0.0%	0.0%	7.9%
	All 9 PMA Crab group	8.6%	7.4%	8.8%	8.8%	8.9%	7.8%	8.1%	8.1%	8.3%	8.1%	8.3%
	Non-Qualified PMA Crab	13.9%	12.5%	19.4%	22.6%	20.0%	18.8%	18.8%	18.9%	16.0%	22.2%	18.2%
	"Overlap" Vessels	0.0%	33.3%	40.0%	57.1%	11.8%	11.5%	19.0%	17.4%	0.0%	0.0%	17.1%
S-T CMSA	All Fisheries other than PMA Crab	89.8%	90.0%	89.3%	91.3%	92.5%	94.0%	92.5%	91.6%	92.0%	92.2%	91.7%
	Bristol Bay Red King Crab	91.5%	93.2%	91.3%			92.1%	91.8%	91.8%	90.9%	91.4%	91.7%
	Bering Sea Opilio Crab	93.6%	93.6%	92.1%	90.6%	91.4%	92.1%	91.2%	91.5%	91.5%	92.0%	92.0%
	Bering Sea Tanner Crab	91.9%	92.4%	91.9%	90.1%	94.4%	92.2%					92.2%
	BBR/BSO/BST group	91.4%	92.5%	92.0%	91.0%	92.0%	92.2%	91.9%	91.9%	91.7%	91.9%	91.8%
	Other 6 PMA Crab group	94.9%	92.8%	91.1%	90.4%	90.8%	93.6%	93.6%	90.0%	100.0%	100.0%	92.1%
	All 9 PMA Crab group	91.4%	92.6%	91.2%	91.2%	91.1%	92.2%	91.9%	91.9%	91.7%	91.9%	91.7%
	Non-Qualified PMA Crab	86.1%	87.5%	80.6%	77.4%	80.0%	81.3%	81.3%	81.1%	84.0%	77.8%	81.8%
	"Overlap" Vessels	100.0%	66.7%	60.0%	42.9%	88.2%	88.5%	81.0%	82.6%	100.0%	100.0%	82.9%
Total WA	All Fisheries other than PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bristol Bay Red King Crab	100.0%	100.0%	100.0%			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Opilio Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Tanner Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%
	BBR/BSO/BST group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other 6 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All 9 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Non-Qualified PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	"Overlap" Vessels	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-9. PMA Crab Vessels from Washington by Fishery Category and Year (1991-2000) as Percentage of Total Vessels (all States) in each Fishery Category

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Other Washington	All Fisheries other than PMA Crab	4.4%	4.5%	4.9%	4.2%	4.2%	3.2%	4.6%	4.8%	4.8%	4.5%	4.4%
	Bristol Bay Red King Crab	5.1%	4.0%	5.2%			4.8%	5.2%	5.2%	6.0%	5.4%	5.1%
	Bering Sea Opilio Crab	4.1%	4.1%	5.2%	5.9%	5.7%	4.8%	5.4%	5.4%	5.6%	5.0%	5.1%
	Bering Sea Tanner Crab	5.0%	4.6%	5.0%	6.1%	3.7%	4.7%					4.9%
	BBR/BSO/BST group	5.1%	4.5%	5.0%	5.7%	5.3%	4.9%	5.2%	5.2%	5.5%	5.1%	5.1%
	Other 6 PMA Crab group	3.4%	4.8%	5.2%	6.0%	5.1%	3.6%	3.5%	5.7%	0.0%	0.0%	4.7%
	All 9 PMA Crab group	5.0%	4.4%	5.3%	5.4%	5.4%	4.7%	5.0%	5.0%	5.4%	5.1%	5.1%
	Non-Qualified PMA Crab	6.8%	6.5%	9.3%	11.9%	9.8%	9.2%	9.8%	10.0%	10.3%	11.4%	9.3%
	"Overlap" Vessels	0.0%	33.3%	25.0%	40.0%	5.9%	6.7%	11.4%	10.8%	0.0%	0.0%	10.1%
S-T CMSA	All Fisheries other than PMA Crab	39.3%	40.9%	40.9%	43.8%	51.9%	50.0%	56.3%	52.1%	55.4%	53.1%	48.7%
	Bristol Bay Red King Crab	54.4%	54.9%	55.1%			55.6%	58.2%	58.8%	60.0%	58.2%	56.8%
	Bering Sea Opilio Crab	60.1%	59.8%	60.6%	57.2%	60.3%	56.6%	56.6%	58.3%	59.8%	57.5%	58.7%
	Bering Sea Tanner Crab	56.2%	56.4%	56.9%	55.9%	62.6%	55.7%					57.1%
	BBR/BSO/BST group	54.3%	55.3%	57.1%	57.2%	61.2%	57.5%	58.5%	58.7%	60.0%	57.9%	57.7%
	Other 6 PMA Crab group	62.9%	62.4%	53.3%	56.8%	49.8%	52.0%	51.8%	51.0%	68.8%	64.7%	54.6%
	All 9 PMA Crab group	53.9%	55.4%	55.2%	55.4%	55.4%	55.3%	57.0%	57.0%	59.8%	57.6%	56.1%
	Non-Qualified PMA Crab	42.5%	45.2%	38.7%	40.7%	39.0%	40.0%	42.6%	42.9%	53.8%	40.0%	42.0%
	"Overlap" Vessels	50.0%	66.7%	37.5%	30.0%	44.1%	51.1%	48.6%	51.4%	62.5%	62.5%	49.0%
Total WA	All Fisheries other than PMA Crab	43.7%	45.5%	45.7%	47.9%	56.1%	53.2%	60.9%	56.8%	60.2%	57.6%	53.1%
	Bristol Bay Red King Crab	59.5%	58.9%	60.3%			60.3%	63.3%	64.0%	66.0%	63.6%	61.9%
	Bering Sea Opilio Crab	64.2%	63.8%	65.7%	63.2%	66.0%	61.4%	62.0%	63.7%	65.4%	62.4%	63.8%
	Bering Sea Tanner Crab	61.2%	61.1%	61.9%	62.0%	66.3%	60.4%					62.0%
	BBR/BSO/BST group	59.4%	59.8%	62.1%	62.9%	66.5%	62.3%	63.7%	63.8%	65.5%	63.0%	62.8%
	Other 6 PMA Crab group	66.3%	67.2%	58.6%	62.8%	54.8%	55.6%	55.3%	56.7%	68.8%	64.7%	59.3%
	All 9 PMA Crab group	59.0%	59.8%	60.5%	60.7%	60.9%	59.9%	62.0%	62.0%	65.2%	62.7%	61.2%
	Non-Qualified PMA Crab	49.3%	51.6%	48.0%	52.5%	48.8%	49.2%	52.5%	52.9%	64.1%	51.4%	51.4%
	"Overlap" Vessels	50.0%	100.0%	62.5%	70.0%	50.0%	57.8%	60.0%	62.2%	62.5%	62.5%	59.1%

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 2: Harvest Vessel Count Trend Data, Subset 4 - State of Oregon Tables

The following are State of Oregon tables that aggregate vessels at the level of the named community of residence of the owner of the vessel, for those communities for which harvest information is potentially non-confidential, by fishery category and year. Named communities for Oregon tables are Newport and "Other Oregon."

- Table A3-10 provides the number of vessels participating in the fisheries categories for each year by named community as well as for the state as a whole and for the total fishery categories (all states) as a whole.

- Table A3-11 displays the vessels participating in each fishery category from each named community for each year, as well as the overall average percentage for the entire 10-year period, as a percentage of all Oregon boats participating in that fishery category.

- Table A3-12 displays the vessels participating in each fishery category from each named community for each year, as well as the overall average percentage for the entire 10-year period, as a percentage of all boats (from all states) participating in that fishery category.

Table A3-10. Count of PMA Crab Vessels from Oregon by Fishery Category and Year (1991-2000)

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Newport	All Fisheries other than PMA Crab	6	10	5	5	8	6	9	8	8	10	7.5
	Bristol Bay Red King Crab	10	7	10	0	0	8	10	9	11	9	9.3
	Bering Sea Opilio Crab	7	8	8	8	7	8	9	9	9	11	8.4
	Bering Sea Tanner Crab	10	9	11	7	6	8	0	0	0	0	8.5
	BBR/BSO/BST group	10	10	11	9	8	9	12	10	12	13	10.4
	Other 6 PMA Crab group	2	5	6	7	9	7	9	9	2	2	5.8
	All 9 PMA Crab group	11	11	12	10	10	9	12	11	12	13	11.1
	Non-Qualified PMA Crab	3	2	2	1	3	3	2	3	2	2	2.3
	"Overlap" Vessels	1		1	1	3	3	2	3	2	2	1.8
Other Oregon	All Fisheries other than PMA Crab	5	7	8	6	3	3	3	4	5	4	4.8
	Bristol Bay Red King Crab	8	7	8	0	0	4	4	6	7	7	6.4
	Bering Sea Opilio Crab	5	6	5	7	5	5	4	4	5	7	5.3
	Bering Sea Tanner Crab	8	8	9	6	5	4	0	0	0	0	6.7
	BBR/BSO/BST group	9	8	9	7	6	5	4	6	7	7	6.8
	Other 6 PMA Crab group	2	3	5	4	5	3	3	4	0	0	3.6
	All 9 PMA Crab group	9	8	9	7	6	5	4	6	7	7	6.8
	Non-Qualified PMA Crab	1	1	2	1	3	2	2	4	4	3	2.3
	"Overlap" Vessels					2	2	2	1			0.7
Total Oregon	All Fisheries other than PMA Crab	11	17	13	11	11	9	12	12	13	14	12.3
	Bristol Bay Red King Crab	18	14	18	0	0	12	14	15	18	16	15.6
	Bering Sea Opilio Crab	12	14	13	15	12	13	13	13	14	18	13.7
	Bering Sea Tanner Crab	18	17	20	13	11	12	0	0	0	0	15.2
	BBR/BSO/BST group	19	18	20	16	14	14	16	16	19	20	17.2
	Other 6 PMA Crab group	4	8	11	11	14	10	12	13	2	2	8.7
	All 9 PMA Crab group	20	19	21	17	16	14	16	17	19	20	17.9
	Non-Qualified PMA Crab	4	3	4	2	6	5	4	7	6	5	4.6
	"Overlap" Vessels	1		1	1	5	5	4	4	2	2	2.5
Total AK/WA/OR	All Fisheries other than PMA Crab	135	176	164	144	214	158	174	146	166	177	165.4
	Bristol Bay Red King Crab	296	275	287	0	0	189	251	267	250	239	256.8
	Bering Sea Opilio Crab	218	246	251	269	247	228	221	223	234	221	235.8
	Bering Sea Tanner Crab	281	303	318	179	190	192	0	0	0	0	243.8
	BBR/BSO/BST group	313	311	322	283	263	247	270	271	275	254	280.9
	Other 6 PMA Crab group	89	186	210	199	217	196	170	194	16	17	149.4
	All 9 PMA Crab group	317	316	337	298	294	257	279	279	276	255	290.8
	Non-Qualified PMA Crab	73	62	75	59	82	65	61	70	39	35	62.1
	"Overlap" Vessels	10	3	8	10	34	45	35	37	8	8	19.8

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-11. PMA Crab Vessels from Oregon by Fishery Category and Year (1991-2000) as Percent of Total Oregonean Vessels in each Fishery Category

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Newport	All Fisheries other than PMA Crab	54.5%	58.8%	38.5%	45.5%	72.7%	66.7%	75.0%	66.7%	61.5%	71.4%	61.0%
	Bristol Bay Red King Crab	55.6%	50.0%	55.6%			66.7%	71.4%	60.0%	61.1%	56.3%	59.2%
	Bering Sea Opilio Crab	58.3%	57.1%	61.5%	53.3%	58.3%	61.5%	69.2%	69.2%	64.3%	61.1%	61.3%
	Bering Sea Tanner Crab	55.6%	52.9%	55.0%	53.8%	54.5%	66.7%					56.0%
	BBR/BSO/BST group	52.6%	55.6%	55.0%	56.3%	57.1%	64.3%	75.0%	62.5%	63.2%	65.0%	60.5%
	Other 6 PMA Crab group	50.0%	62.5%	54.5%	63.6%	64.3%	70.0%	75.0%	69.2%	100.0%	100.0%	66.7%
	All 9 PMA Crab group	55.0%	57.9%	57.1%	58.8%	62.5%	64.3%	75.0%	64.7%	63.2%	65.0%	62.0%
	Non-Qualified PMA Crab	75.0%	66.7%	50.0%	50.0%	50.0%	60.0%	50.0%	42.9%	33.3%	40.0%	50.0%
	"Overlap" Vessels	100.0%		100.0%	100.0%	60.0%	60.0%	50.0%	75.0%	100.0%	100.0%	72.0%
Other Oregon	All Fisheries other than PMA Crab	45.5%	41.2%	61.5%	54.5%	27.3%	33.3%	25.0%	33.3%	38.5%	28.6%	39.0%
	Bristol Bay Red King Crab	44.4%	50.0%	44.4%			33.3%	28.6%	40.0%	38.9%	43.8%	40.8%
	Bering Sea Opilio Crab	41.7%	42.9%	38.5%	46.7%	41.7%	38.5%	30.8%	30.8%	35.7%	38.9%	38.7%
	Bering Sea Tanner Crab	44.4%	47.1%	45.0%	46.2%	45.5%	33.3%					44.0%
	BBR/BSO/BST group	47.4%	44.4%	45.0%	43.8%	42.9%	35.7%	25.0%	37.5%	36.8%	35.0%	39.5%
	Other 6 PMA Crab group	50.0%	37.5%	45.5%	36.4%	35.7%	30.0%	25.0%	30.8%	0.0%	0.0%	33.3%
	All 9 PMA Crab group	45.0%	42.1%	42.9%	41.2%	37.5%	35.7%	25.0%	35.3%	36.8%	35.0%	38.0%
	Non-Qualified PMA Crab	25.0%	33.3%	50.0%	50.0%	50.0%	40.0%	50.0%	57.1%	66.7%	60.0%	50.0%
	"Overlap" Vessels	0.0%		0.0%	0.0%	40.0%	40.0%	50.0%	25.0%	0.0%	0.0%	28.0%
Total Oregon	All Fisheries other than PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bristol Bay Red King Crab	100.0%	100.0%	100.0%			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Opilio Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Tanner Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%
	BBR/BSO/BST group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other 6 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All 9 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Non-Qualified PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	"Overlap" Vessels	100.0%		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-12. PMA Crab Vessels from Oregon by Fishery Category and Year (1991-2000) as Percentage of Total Vessels (all States) in each Fishery Category

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Newport	All Fisheries other than PMA Crab	4.4%	5.7%	3.0%	3.5%	3.7%	3.8%	5.2%	5.5%	4.8%	5.6%	4.5%
	Bristol Bay Red King Crab	3.4%	2.5%	3.5%			4.2%	4.0%	3.4%	4.4%	3.8%	3.6%
	Bering Sea Opilio Crab	3.2%	3.3%	3.2%	3.0%	2.8%	3.5%	4.1%	4.0%	3.8%	5.0%	3.6%
	Bering Sea Tanner Crab	3.6%	3.0%	3.5%	3.9%	3.2%	4.2%					3.5%
	BBR/BSO/BST group	3.2%	3.2%	3.4%	3.2%	3.0%	3.6%	4.4%	3.7%	4.4%	5.1%	3.7%
	Other 6 PMA Crab group	2.2%	2.7%	2.9%	3.5%	4.1%	3.6%	5.3%	4.6%	12.5%	11.8%	3.9%
	All 9 PMA Crab group	3.5%	3.5%	3.6%	3.4%	3.4%	3.5%	4.3%	3.9%	4.3%	5.1%	3.8%
	Non-Qualified PMA Crab	4.1%	3.2%	2.7%	1.7%	3.7%	4.6%	3.3%	4.3%	5.1%	5.7%	3.7%
	"Overlap" Vessels	10.0%	0.0%	12.5%	10.0%	8.8%	6.7%	5.7%	8.1%	25.0%	25.0%	9.1%
Other Oregon	All Fisheries other than PMA Crab	3.7%	4.0%	4.9%	4.2%	1.4%	1.9%	1.7%	2.7%	3.0%	2.3%	2.9%
	Bristol Bay Red King Crab	2.7%	2.5%	2.8%			2.1%	1.6%	2.2%	2.8%	2.9%	2.5%
	Bering Sea Opilio Crab	2.3%	2.4%	2.0%	2.6%	2.0%	2.2%	1.8%	1.8%	2.1%	3.2%	2.2%
	Bering Sea Tanner Crab	2.8%	2.6%	2.8%	3.4%	2.6%	2.1%					2.7%
	BBR/BSO/BST group	2.9%	2.6%	2.8%	2.5%	2.3%	2.0%	1.5%	2.2%	2.5%	2.8%	2.4%
	Other 6 PMA Crab group	2.2%	1.6%	2.4%	2.0%	2.3%	1.5%	1.8%	2.1%	0.0%	0.0%	1.9%
	All 9 PMA Crab group	2.8%	2.5%	2.7%	2.3%	2.0%	1.9%	1.4%	2.2%	2.5%	2.7%	2.3%
	Non-Qualified PMA Crab	1.4%	1.6%	2.7%	1.7%	3.7%	3.1%	3.3%	5.7%	10.3%	8.6%	3.7%
	"Overlap" Vessels	0.0%	0.0%	0.0%	0.0%	5.9%	4.4%	5.7%	2.7%	0.0%	0.0%	3.5%
Total Oregon	All Fisheries other than PMA Crab	8.1%	9.7%	7.9%	7.6%	5.1%	5.7%	6.9%	8.2%	7.8%	7.9%	7.4%
	Bristol Bay Red King Crab	6.1%	5.1%	6.3%			6.3%	5.6%	5.6%	7.2%	6.7%	6.1%
	Bering Sea Opilio Crab	5.5%	5.7%	5.2%	5.6%	4.9%	5.7%	5.9%	5.8%	6.0%	8.1%	5.8%
	Bering Sea Tanner Crab	6.4%	5.6%	6.3%	7.3%	5.8%	6.3%					6.2%
	BBR/BSO/BST group	6.1%	5.8%	6.2%	5.7%	5.3%	5.7%	5.9%	5.9%	6.9%	7.9%	6.1%
	Other 6 PMA Crab group	4.5%	4.3%	5.2%	5.5%	6.5%	5.1%	7.1%	6.7%	12.5%	11.8%	5.8%
	All 9 PMA Crab group	6.3%	6.0%	6.2%	5.7%	5.4%	5.4%	5.7%	6.1%	6.9%	7.8%	6.2%
	Non-Qualified PMA Crab	5.5%	4.8%	5.3%	3.4%	7.3%	7.7%	6.6%	10.0%	15.4%	14.3%	7.4%
	"Overlap" Vessels	10.0%	0.0%	12.5%	10.0%	14.7%	11.1%	11.4%	10.8%	25.0%	25.0%	12.6%

Notes: Shaded cells values cannot be disclosed in analogous volume or value tables.
PMA crab fishery and group vessel counts are not mutually exclusive and therefore do not sum to column totals, as some vessels fish several fisheries.
PMA crab fishery and group vessel counts include all landings (qualified and non-qualified).
Average vessel counts for individual fisheries are computed using years open during 1991-2000.
Average vessel counts for grouped fishery categories used all 10 years (unweighted), except for years with zero participation in all fisheries in the group for a given community.
Vessels fishing multiple fisheries have been counted only once in combined categories.
Non-qualified and "overlap" vessels do not appear in subsequent harvest or value tables due to confidentiality concerns.
Overlap vessels have both qualified and non-qualified PMA landings, but are counted only once in combined groups.
Data from vessels owned by residents of states other than AK, WA, and OR are deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 3: Harvest Value Data

The following group of tables provides harvest value information for harvester vessels by fishery category by year (1991-2000), and residence of vessel owner. As discussed above, all vessels with PMA crab landings are included, whether these landings fall into the proposed qualification periods or not. However, only vessels from the States of Alaska, Washington, or Oregon are considered, as discussed above. There are relatively few vessels from other states and their inclusion results in too many confidentiality concerns to be useful for this analysis. Further, their exclusion does not significantly change the characterization of the fisheries. Fishery categories are the same three individual PMA crab fisheries and groups of fisheries as for Table A3-1, as well as a grouping of all combined non-PMA fisheries.

Series 3: Harvest Value Data, Subset 1 - Overall Fisheries Tables

The following tables consist of overall fishery tables that aggregate vessels at the level of state of residence of the owner of the vessel. Tables are:

- Table A3-13 provides the value of the harvest for harvest vessels participating in the fisheries categories for each year (1991-2000) by state (Alaska, Washington, Oregon).

- Table A3-14 calculates the percentage of harvest value in each fishery category for vessels from each state for each year, as well as the overall average percentage for the entire 10-year period, as a percentage of the total value of each fishery category.

- Table A3-15 calculates the percentage of harvest value in each fishery category for vessels from each state for each year, as well as the overall average percentage for the entire 10-year period, as a percentage of the total value of all combined fisheries for that state.

- Table A3-16 calculates the percentage of harvest value in each fishery category for vessels from each state for each year, as well as the overall average percentage for the entire 10-year period, as a percentage of the total value of all combined fisheries for all states.

Table A3-13. Value of Harvest (in Dollars) for PMA Crab Vessels by Fishery Category, State of Vessel Owner, and Year (1991-2000)

State	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Alaska	All fisheries other than PMA Crab	$16,026,271	$16,713,066	$16,505,738	$11,642,341	$17,115,492	$10,913,751	$13,793,036	$10,721,807	$13,801,828	$10,864,745	$13,809,807
	Bristol Bay Red King Crab	$14,987,657	$13,066,334	$13,798,354	$0	$0	$9,634,642	$7,230,020	$9,315,501	$17,697,596	$10,338,422	$9,606,852
	Bering Sea Opilio Crab	$39,041,894	$37,383,017	$38,980,829	$48,507,766	$39,803,495	$22,760,824	$24,864,675	$38,648,218	$47,505,618	$14,598,810	$35,209,515
	Bering Sea Tanner Crab	$13,942,613	$15,864,673	$11,890,330	$9,061,768	$2,970,713	$1,666,375	$0	$0	$0	$0	$5,539,647
	BBR/BSO/BST Crab group	$67,972,164	$66,314,024	$64,669,513	$57,569,534	$42,774,208	$34,061,840	$32,094,694	$47,963,719	*	*	$50,356,014
	Other 6 PMA Crab group	$6,988,742	$6,505,767	$8,843,686	$11,893,984	$10,027,854	$6,922,279	$8,664,919	$6,646,011	*	*	$7,723,213
	All 9 PMA Crab group	$74,960,906	$72,819,791	$73,513,198	$69,463,519	$52,802,061	$40,984,119	$40,759,613	$54,609,730	$70,283,642	$30,595,693	$58,079,227
	Total All Fisheries	$90,987,177	$89,532,856	$90,018,936	$81,105,860	$69,917,554	$51,897,870	$54,552,649	$65,331,537	$84,085,470	$41,460,438	$71,889,035
Washington	All fisheries other than PMA Crab	$25,634,192	$29,682,401	$24,551,684	$25,763,647	$46,448,169	$19,118,767	$46,178,453	$27,195,365	$46,118,240	$35,957,313	$32,664,823
	Bristol Bay Red King Crab	$36,524,795	$26,750,667	$38,603,154	$0	$0	$21,255,510	$19,484,841	$24,163,921	$44,654,217	$22,717,190	$23,415,430
	Bering Sea Opilio Crab	$118,065,741	$114,068,885	$121,583,219	$134,542,853	$118,610,668	$59,052,283	$59,308,202	$86,570,702	$116,828,274	$35,336,157	$96,396,698
	Bering Sea Tanner Crab	$39,351,210	$39,949,016	$26,774,328	$22,659,677	$7,929,070	$2,622,403	$0	$0	$0	$0	$13,928,570
	BBR/BSO/BST Crab group	$193,941,746	$180,768,568	$186,960,701	$157,202,530	$126,539,737	$82,930,196	$78,793,044	$110,734,623	$161,482,491	$58,053,347	$133,740,698
	Other 6 PMA Crab group	$19,601,382	$19,875,580	$19,578,902	$30,883,908	$22,214,418	$17,242,878	$15,089,959	$9,055,510	$7,458,718	$8,994,392	$16,999,565
	All 9 PMA Crab group	$213,543,128	$200,644,147	$206,539,603	$188,086,438	$148,754,155	$100,173,074	$93,883,003	$119,790,133	$168,941,209	$67,047,739	$150,740,263
	Total All Fisheries	$239,177,320	$230,326,549	$231,091,287	$213,850,085	$195,202,324	$119,291,841	$140,061,456	$146,985,498	$215,059,449	$103,005,052	$183,405,086
Oregon	All fisheries other than PMA Crab	$5,543,233	$9,577,244	$6,252,869	$3,653,273	$5,263,391	$4,749,124	$6,765,619	$4,801,917	$8,374,494	$6,126,044	$6,110,721
	Bristol Bay Red King Crab	$3,286,560	$1,728,439	$4,156,648	$0	$0	$1,941,609	$1,366,445	$3,063,619	$4,546,002	$2,327,582	$2,241,690
	Bering Sea Opilio Crab	$6,227,087	$7,135,280	$10,800,660	$10,247,246	$10,109,120	$4,427,961	$6,097,966	$7,533,765	$10,775,200	$4,519,935	$7,787,422
	Bering Sea Tanner Crab	$2,461,629	$3,054,269	$2,834,933	$3,162,681	$804,368	$216,695	$0	$0	$0	$0	$1,253,457
	BBR/BSO/BST Crab group	$11,975,276	$11,917,988	$17,792,241	$13,409,927	$10,913,488	$6,586,264	$7,464,411	$10,597,384	*	*	$11,282,569
	Other 6 PMA Crab group	$3,335,862	$2,177,364	$3,845,939	$9,236,016	$4,445,049	$3,422,971	$2,938,478	$2,134,739	*	*	$4,003,742
	All 9 PMA Crab group	$15,311,138	$14,095,352	$21,638,179	$22,645,942	$15,358,537	$10,009,235	$10,402,889	$12,732,123	$18,600,607	$12,069,113	$15,286,312
	Total All Fisheries	$20,854,370	$23,672,596	$27,891,049	$26,299,215	$20,621,929	$14,758,359	$17,168,508	$17,534,040	$26,975,102	$18,195,158	$21,397,033
Total AK/WA/OR	All fisheries other than PMA Crab	$47,203,695	$55,972,711	$47,310,292	$41,059,260	$68,827,053	$34,781,642	$66,737,109	$42,719,089	$68,294,562	$52,948,103	$52,585,352
	Bristol Bay Red King Crab	$54,799,012	$41,545,440	$56,558,156	$0	$0	$32,831,761	$28,081,306	$36,543,041	$66,897,815	$35,383,194	$35,263,972
	Bering Sea Opilio Crab	$163,334,723	$158,587,181	$171,364,707	$193,297,865	$168,523,283	$86,241,067	$90,270,843	$132,752,685	$175,109,092	$54,454,901	$139,393,635
	Bering Sea Tanner Crab	$55,755,452	$58,867,958	$41,499,591	$34,884,126	$11,704,150	$4,505,473	$0	$0	$0	$0	$20,721,675
	BBR/BSO/BST Crab group	$273,889,186	$259,000,580	$269,422,454	$228,181,991	$180,227,433	$123,578,300	$118,352,149	$169,295,725	$242,006,907	$89,838,096	$195,379,282
	Other 6 PMA Crab group	$29,925,986	$28,558,710	$32,268,526	$52,013,908	$36,687,321	$27,588,128	$26,693,356	$17,836,260	$15,818,551	$19,874,449	$28,726,520
	All 9 PMA Crab group	$303,815,173	$287,559,290	$301,690,980	$280,195,899	$216,914,754	$151,166,428	$145,045,505	$187,131,986	$257,825,458	$109,712,545	$224,105,802
	Total All Fisheries	$351,018,868	$343,532,001	$349,001,272	$321,255,160	$285,741,806	$185,948,071	$211,782,613	$229,851,075	$326,120,020	$162,660,648	$276,691,153

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-14. Value of Harvest for PMA Crab Vessels by Fishery Category, State of Vessel Owner, and Year (1991-2000) as Percentage of Grand Total of Value (all States) of Harvest of Vessels Fishing PMA Crab

State	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Alaska	All fisheries other than PMA Crab	34.0%	29.9%	34.9%	28.4%	24.9%	31.4%	20.7%	25.1%	20.2%	20.5%	26.3%
	Bristol Bay Red King Crab	27.4%	31.5%	24.4%			29.3%	25.7%	25.5%	26.5%	29.2%	27.2%
	Bering Sea Opilio Crab	23.9%	23.6%	22.7%	25.1%	23.6%	26.4%	27.5%	29.1%	27.1%	26.8%	25.3%
	Bering Sea Tanner Crab	25.0%	26.9%	28.7%	26.0%	25.4%	37.0%					26.7%
	BBR/BSO/BST Crab group	24.8%	25.6%	24.0%	25.2%	23.7%	27.6%	27.1%	28.3%	*	*	25.8%
	Other 6 PMA Crab group	23.4%	22.8%	27.4%	22.9%	27.3%	25.1%	32.5%	37.3%	*	*	26.9%
	All 9 PMA Crab group	24.7%	25.3%	24.4%	24.8%	24.3%	27.1%	28.1%	29.2%	27.3%	27.9%	25.9%
	Total All Fisheries	25.9%	26.1%	25.8%	25.2%	24.5%	27.9%	25.8%	28.4%	25.8%	25.5%	26.0%
Washington	All fisheries other than PMA Crab	54.3%	53.0%	51.9%	62.7%	67.5%	55.0%	69.2%	63.7%	67.5%	67.9%	62.1%
	Bristol Bay Red King Crab	66.7%	64.4%	68.3%			64.7%	69.4%	66.1%	66.7%	64.2%	66.4%
	Bering Sea Opilio Crab	72.3%	71.9%	70.9%	69.6%	70.4%	68.5%	65.7%	65.2%	66.7%	64.9%	69.2%
	Bering Sea Tanner Crab	70.6%	67.9%	64.5%	65.0%	67.7%	58.2%					67.2%
	BBR/BSO/BST Crab group	70.8%	69.8%	69.4%	68.9%	70.2%	67.1%	66.6%	65.4%	66.7%	64.6%	68.5%
	Other 6 PMA Crab group	65.5%	69.6%	60.7%	59.4%	60.6%	62.5%	56.5%	50.8%	47.2%	45.3%	59.2%
	All 9 PMA Crab group	70.3%	69.8%	68.5%	67.1%	68.6%	66.3%	64.7%	64.0%	65.5%	61.1%	67.3%
	Total All Fisheries	68.1%	67.0%	66.2%	66.6%	68.3%	64.2%	66.1%	63.9%	65.9%	63.3%	66.3%
Oregon	All fisheries other than PMA Crab	11.7%	17.1%	13.2%	8.9%	7.6%	13.7%	10.1%	11.2%	12.3%	11.6%	11.6%
	Bristol Bay Red King Crab	6.0%	4.2%	7.3%			5.9%	4.9%	8.4%	6.8%	6.6%	6.4%
	Bering Sea Opilio Crab	3.8%	4.5%	6.3%	5.3%	6.0%	5.1%	6.8%	5.7%	6.2%	8.3%	5.6%
	Bering Sea Tanner Crab	4.4%	5.2%	6.8%	9.1%	6.9%	4.8%					6.0%
	BBR/BSO/BST Crab group	4.4%	4.6%	6.6%	5.9%	6.1%	5.3%	6.3%	6.3%	*	*	5.8%
	Other 6 PMA Crab group	11.1%	7.6%	11.9%	17.8%	12.1%	12.4%	11.0%	12.0%	*	*	13.9%
	All 9 PMA Crab group	5.0%	4.9%	7.2%	8.1%	7.1%	6.6%	7.2%	6.8%	7.2%	11.0%	6.8%
	Total All Fisheries	5.9%	6.9%	8.0%	8.2%	7.2%	7.9%	8.1%	7.6%	8.3%	11.2%	7.7%
Total AK/WA/OR	All fisheries other than PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bristol Bay Red King Crab	100.0%	100.0%	100.0%	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Opilio Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Tanner Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
	BBR/BSO/BST Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other 6 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All 9 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-15. Value of Harvest for PMA Crab Vessels by Fishery Category, State of Vessel Owner, and Year (1991-2000) as Percentage of Total Individual State Value of Harvest from All Alaskan Fisheries for Vessels Fishing PMA Crab Fisheries

State	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Alaska	All fisheries other than PMA Crab	17.6%	18.7%	18.3%	14.4%	24.5%	21.0%	25.3%	16.4%	16.4%	26.2%	19.2%
	Bristol Bay Red King Crab	16.5%	14.6%	15.3%	0.0%	0.0%	18.6%	13.3%	14.3%	21.0%	24.9%	13.4%
	Bering Sea Opilio Crab	42.9%	41.8%	43.3%	59.8%	56.9%	43.9%	45.6%	59.2%	56.5%	35.2%	49.0%
	Bering Sea Tanner Crab	15.3%	17.7%	13.2%	11.2%	4.2%	3.2%	0.0%	0.0%	0.0%	0.0%	7.7%
	BBR/BSO/BST Crab group	74.7%	74.1%	71.8%	71.0%	61.2%	65.6%	58.8%	73.4%	*	*	70.0%
	Other 6 PMA Crab group	7.7%	7.3%	9.8%	14.7%	14.3%	13.3%	15.9%	10.2%	*	*	10.7%
	All 9 PMA Crab group	82.4%	81.3%	81.7%	85.6%	75.5%	79.0%	74.7%	83.6%	83.6%	73.8%	80.8%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Washington	All fisheries other than PMA Crab	10.7%	12.9%	10.6%	12.0%	23.8%	16.0%	33.0%	18.5%	21.4%	34.9%	17.8%
	Bristol Bay Red King Crab	15.3%	11.6%	16.7%	0.0%	0.0%	17.8%	13.9%	16.4%	20.8%	22.1%	12.8%
	Bering Sea Opilio Crab	49.4%	49.5%	52.6%	62.9%	60.8%	49.5%	42.3%	58.9%	54.3%	34.3%	52.6%
	Bering Sea Tanner Crab	16.5%	17.3%	11.6%	10.6%	4.1%	2.2%	0.0%	0.0%	0.0%	0.0%	7.6%
	BBR/BSO/BST Crab group	81.1%	78.5%	80.9%	73.5%	64.8%	69.5%	56.3%	75.3%	75.1%	56.4%	72.9%
	Other 6 PMA Crab group	8.2%	8.6%	8.5%	14.4%	11.4%	14.5%	10.8%	6.2%	3.5%	8.7%	9.3%
	All 9 PMA Crab group	89.3%	87.1%	89.4%	88.0%	76.2%	84.0%	67.0%	81.5%	78.6%	65.1%	82.2%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Oregon	All fisheries other than PMA Crab	26.6%	40.5%	22.4%	13.9%	25.5%	32.2%	39.4%	27.4%	31.0%	33.7%	28.6%
	Bristol Bay Red King Crab	15.8%	7.3%	14.9%	0.0%	0.0%	13.2%	8.0%	17.5%	16.9%	12.8%	10.5%
	Bering Sea Opilio Crab	29.9%	30.1%	38.7%	39.0%	49.0%	30.0%	35.5%	43.0%	39.9%	24.8%	36.4%
	Bering Sea Tanner Crab	11.8%	12.9%	10.2%	12.0%	3.9%	1.5%	0.0%	0.0%	0.0%	0.0%	5.9%
	BBR/BSO/BST Crab group	57.4%	50.3%	63.8%	51.0%	52.9%	44.6%	43.5%	60.4%	*	*	52.7%
	Other 6 PMA Crab group	16.0%	9.2%	13.8%	35.1%	21.6%	23.2%	17.1%	12.2%	*	*	18.7%
	All 9 PMA Crab group	73.4%	59.5%	77.6%	86.1%	74.5%	67.8%	60.6%	72.6%	69.0%	66.3%	71.4%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total AK/WA/OR	All fisheries other than PMA Crab	13.4%	16.3%	13.6%	12.8%	24.1%	18.7%	31.5%	18.6%	20.9%	32.6%	19.0%
	Bristol Bay Red King Crab	15.6%	12.1%	16.2%	0.0%	0.0%	17.7%	13.3%	15.9%	20.5%	21.8%	12.7%
	Bering Sea Opilio Crab	46.5%	46.2%	49.1%	60.2%	59.0%	46.4%	42.6%	57.8%	53.7%	33.5%	50.4%
	Bering Sea Tanner Crab	15.9%	17.1%	11.9%	10.9%	4.1%	2.4%	0.0%	0.0%	0.0%	0.0%	7.5%
	BBR/BSO/BST Crab group	78.0%	75.4%	77.2%	71.0%	63.1%	66.5%	55.9%	73.7%	74.2%	55.2%	70.6%
	Other 6 PMA Crab group	8.5%	8.3%	9.2%	16.2%	12.8%	14.8%	12.6%	7.8%	4.9%	12.2%	10.4%
	All 9 PMA Crab group	86.6%	83.7%	86.4%	87.2%	75.9%	81.3%	68.5%	81.4%	79.1%	67.4%	81.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-16. Value of Harvest for PMA Crab Vessels by Fishery Category, State of Vessel Owner, and Year (1991-2000) as Percentage of Grand Total of Value (all States) of Harvest from All Alaskan Fisheries for Vessels Fishing PMA Crab Fisheries

State	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Alaska	All fisheries other than PMA Crab	4.6%	4.9%	4.7%	3.6%	6.0%	5.9%	6.5%	4.7%	4.2%	6.7%	5.0%
	Bristol Bay Red King Crab	4.3%	3.8%	4.0%	0.0%	0.0%	5.2%	3.4%	4.1%	5.4%	6.4%	3.5%
	Bering Sea Opilio Crab	11.1%	10.9%	11.2%	15.1%	13.9%	12.2%	11.7%	16.8%	14.6%	9.0%	12.7%
	Bering Sea Tanner Crab	4.0%	4.6%	3.4%	2.8%	1.0%	0.9%	0.0%	0.0%	0.0%	0.0%	2.0%
	BBR/BSO/BST Crab group	19.4%	19.3%	18.5%	17.9%	15.0%	18.3%	15.2%	20.9%	*	*	18.2%
	Other 6 PMA Crab group	2.0%	1.9%	2.5%	3.7%	3.5%	3.7%	4.1%	2.9%	*	*	2.8%
	All 9 PMA Crab group	21.4%	21.2%	21.1%	21.6%	18.5%	22.0%	19.2%	23.8%	21.6%	18.8%	21.0%
	Total All Fisheries	25.9%	26.1%	25.8%	25.2%	24.5%	27.9%	25.8%	28.4%	25.8%	25.5%	26.0%
Washington	All fisheries other than PMA Crab	7.3%	8.6%	7.0%	8.0%	16.3%	10.3%	21.8%	11.8%	14.1%	22.1%	11.8%
	Bristol Bay Red King Crab	10.4%	7.8%	11.1%	0.0%	0.0%	11.4%	9.2%	10.5%	13.7%	14.0%	8.5%
	Bering Sea Opilio Crab	33.6%	33.2%	34.8%	41.9%	41.5%	31.8%	28.0%	37.7%	35.8%	21.7%	34.8%
	Bering Sea Tanner Crab	11.2%	11.6%	7.7%	7.1%	2.8%	1.4%	0.0%	0.0%	0.0%	0.0%	5.0%
	BBR/BSO/BST Crab group	55.3%	52.6%	53.6%	48.9%	44.3%	44.6%	37.2%	48.2%	49.5%	35.7%	48.3%
	Other 6 PMA Crab group	5.6%	5.8%	5.6%	9.6%	7.8%	9.3%	7.1%	3.9%	2.3%	5.5%	6.1%
	All 9 PMA Crab group	60.8%	58.4%	59.2%	58.5%	52.1%	53.9%	44.3%	52.1%	51.8%	41.2%	54.5%
	Total All Fisheries	68.1%	67.0%	66.2%	66.6%	68.3%	64.2%	66.1%	63.9%	65.9%	63.3%	66.3%
Oregon	All fisheries other than PMA Crab	1.6%	2.8%	1.8%	1.1%	1.8%	2.6%	3.2%	2.1%	2.6%	3.8%	2.2%
	Bristol Bay Red King Crab	0.9%	0.5%	1.2%	0.0%	0.0%	1.0%	0.6%	1.3%	1.4%	1.4%	0.8%
	Bering Sea Opilio Crab	1.8%	2.1%	3.1%	3.2%	3.5%	2.4%	2.9%	3.3%	3.3%	2.8%	2.8%
	Bering Sea Tanner Crab	0.7%	0.9%	0.8%	1.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.5%
	BBR/BSO/BST Crab group	3.4%	3.5%	5.1%	4.2%	3.8%	3.5%	3.5%	4.6%	*	*	4.1%
	Other 6 PMA Crab group	1.0%	0.6%	1.1%	2.9%	1.6%	1.8%	1.4%	0.9%	*	*	1.4%
	All 9 PMA Crab group	4.4%	4.1%	6.2%	7.0%	5.4%	5.4%	4.9%	5.5%	5.7%	7.4%	5.5%
	Total All Fisheries	5.9%	6.9%	8.0%	8.2%	7.2%	7.9%	8.1%	7.6%	8.3%	11.2%	7.7%
Total AK/WA/OR	All fisheries other than PMA Crab	13.4%	16.3%	13.6%	12.8%	24.1%	18.7%	31.5%	18.6%	20.9%	32.6%	19.0%
	Bristol Bay Red King Crab	15.6%	12.1%	16.2%	0.0%	0.0%	17.7%	13.3%	15.9%	20.5%	21.8%	12.7%
	Bering Sea Opilio Crab	46.5%	46.2%	49.1%	60.2%	59.0%	46.4%	42.6%	57.8%	53.7%	33.5%	50.4%
	Bering Sea Tanner Crab	15.9%	17.1%	11.9%	10.9%	4.1%	2.4%	0.0%	0.0%	0.0%	0.0%	7.5%
	BBR/BSO/BST Crab group	78.0%	75.4%	77.2%	71.0%	63.1%	66.5%	55.9%	73.7%	74.2%	55.2%	70.6%
	Other 6 PMA Crab group	8.5%	8.3%	9.2%	16.2%	12.8%	14.8%	12.6%	7.8%	4.9%	12.2%	10.4%
	All 9 PMA Crab group	86.6%	83.7%	86.4%	87.2%	75.9%	81.3%	68.5%	81.4%	79.1%	67.4%	81.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 3: Harvest Value Data, Subset 2 - State of Alaska Tables

The following group of tables consist of State of Alaska tables that aggregate harvest value at the level of the named community of residence of the owner of the vessel, for those communities for which harvest information is potentially nonconfidential, by fishery category and year. Named communities for Alaska tables are Anchorage, Homer, Kodiak, King Cove and Sand Point combined, and all other Alaska communities combined.

- Table A3-17 provides the value of the harvest for fisheries categories for each year for vessels owned by the residents of named communities as well as for the state as a whole, then for each fishery as a whole (all states combined).

- Table A3-18 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of all fisheries for those vessels from that named community (as a measure of community fleet dependence on PMA crab).

- Table A3-19 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of each individual fishery category for the total state fishery category.

- Table A3-20 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of each individual fishery category for the total fishery category (all states combined).

- Table A3-21 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of all fisheries categories combined for all states.

Table A3-17. Value of Harvest (in Dollars) for PMA Crab Vessels from Alaska by Fishery Category, Community of Vessel Owner, and Year (1991-2000)

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Anchorage	All fisheries other than PMA Crab	$230,795	$191,116	$195,938	*	$604,625	$470,443	*	*	*	*	$260,445
	Bristol Bay Red King Crab	$1,351,809	$570,279	$1,276,529	$0	$0	$1,373,721	$436,289	$603,162	$1,739,047	$922,275	$827,311
	Bering Sea Opilio Crab	*	*	$2,008,504	$3,148,255	$4,507,726	$2,504,145	$2,108,969	$2,858,039	$4,038,668	$1,341,335	$2,539,097
	Bering Sea Tanner Crab	*	$511,326	$431,484	*	$356,789	$122,825	$0	$0	$0	$0	$216,299
	BBR/BSO/BST Crab group	*	*	$3,716,517	*	$4,864,514	$4,000,692	$2,545,257	$3,461,201	$5,777,715	$2,263,610	$3,582,707
	Other 6 PMA Crab group	*	*	$281,562	*	$1,514,609	$718,880	*	*	*	*	$730,890
	All 9 PMA Crab group	$4,745,712	$1,902,394	$3,998,080	$3,629,142	$6,379,123	$4,719,571	*	*	*	*	$4,313,597
	Total All Fisheries	$4,976,507	$2,093,510	$4,194,018	$3,822,270	$6,983,748	$5,190,014	$4,114,085	$4,790,573	$6,429,905	$3,145,782	$4,574,041
Homer	All fisheries other than PMA Crab	$1,039,186	$897,462	$1,042,015	$353,255	$766,168	$559,357	$752,032	$477,683	$725,556	$816,418	$742,913
	Bristol Bay Red King Crab	$1,488,406	$1,540,771	$1,496,735	$0	$0	$1,270,757	$707,232	$1,043,878	$2,253,348	$1,869,203	$1,167,033
	Bering Sea Opilio Crab	$4,097,792	$3,094,072	$3,076,189	$4,998,331	$4,688,637	$2,883,550	$2,373,239	$4,441,302	$5,417,840	$2,185,266	$3,725,622
	Bering Sea Tanner Crab	$1,125,748	$1,419,800	$1,684,705	$1,340,922	$383,590	$196,821	$0	$0	$0	$0	$615,159
	BBR/BSO/BST Crab group	*	*	$6,257,628	$6,339,253	$5,072,227	$4,351,128	*	*	*	*	$5,507,813
	Other 6 PMA Crab group	*	*	$430,530	$666,038	$358,937	$360,035	*	*	*	*	$302,773
	All 9 PMA Crab group	$6,817,439	$6,160,095	$6,688,159	$7,005,291	$5,431,163	$4,711,163	$3,680,188	$5,886,708	$7,671,187	$4,054,469	$5,810,586
	Total All Fisheries	$7,856,625	$7,057,557	$7,730,173	$7,358,545	$6,197,332	$5,270,520	$4,432,219	$6,364,391	$8,396,743	$4,870,887	$6,553,499
King Cove/ Sand Point	All fisheries other than PMA Crab	*	*	$1,481,962	$1,797,290	$6,454,571	$2,333,691	$1,962,773	$1,832,118	$1,288,267	$2,338,251	$2,064,507
	Bristol Bay Red King Crab	$1,025,348	$800,913	$771,459	$0	$0	$1,008,821	$1,216,493	$612,732	$1,548,836	$836,521	$782,112
	Bering Sea Opilio Crab	*	*	$2,825,583	$3,579,619	$3,617,025	$2,290,358	$2,456,576	$3,293,595	$3,292,402	$442,247	$2,705,133
	Bering Sea Tanner Crab	*	$1,229,674	$629,394	$1,053,599	$292,115	$157,726	$0	$0	$0	$0	$429,111
	BBR/BSO/BST Crab group	*	*	$4,226,436	$4,633,217	$3,909,140	$3,456,904	$3,673,069	$3,906,328	$4,841,238	$1,278,767	$3,916,357
	Other 6 PMA Crab group	*	*	$422,558	$1,282,770	$1,642,558	$799,089	$554,412	$331,448	$0	$0	$537,166
	All 9 PMA Crab group	$4,825,135	$4,752,159	$4,648,994	$5,915,987	$5,551,698	$4,255,993	$4,227,481	$4,237,776	$4,841,238	$1,278,767	$4,453,523
	Total All Fisheries	$5,461,796	$5,271,648	$6,130,956	$7,713,277	$12,006,269	$6,589,684	$6,190,255	$6,069,894	$6,129,506	$3,617,018	$6,518,030
Kodiak	All fisheries other than PMA Crab	$10,313,693	$10,784,683	$9,913,350	$7,777,466	$7,825,399	$6,832,846	$9,270,520	$7,144,134	$10,598,657	$6,651,486	$8,711,223
	Bristol Bay Red King Crab	$8,882,784	$8,444,153	$8,652,484	$0	$0	$4,638,544	$3,252,436	$4,671,189	$9,008,396	$4,856,236	$5,240,622
	Bering Sea Opilio Crab	$24,519,162	$26,044,103	$26,060,171	$30,524,979	$19,571,530	$10,923,040	$12,524,443	$17,866,069	$24,899,947	$7,880,261	$20,081,371
	Bering Sea Tanner Crab	$10,181,941	$10,131,806	$7,650,327	$5,307,890	$1,662,701	$1,000,401	$0	$0	$0	$0	$3,593,507
	BBR/BSO/BST Crab group	$43,583,886	$44,620,062	$42,362,983	$35,832,870	$21,234,231	$16,561,985	$15,776,879	$22,537,259	*	*	$28,915,500
	Other 6 PMA Crab group	$6,028,032	$5,696,801	$6,409,791	$7,767,442	$5,030,488	$3,868,607	$5,419,982	$4,144,564	*	*	$5,390,614
	All 9 PMA Crab group	$49,611,918	$50,316,863	$48,772,774	$43,600,312	$26,264,720	$20,430,592	$21,196,861	$26,681,823	$38,546,739	$17,638,530	$34,306,113
	Total All Fisheries	$59,925,611	$61,101,546	$58,686,124	$51,377,778	$34,090,119	$27,263,438	$30,467,380	$33,825,957	$49,145,396	$24,290,016	$43,017,337
Other Alaska	All fisheries other than PMA Crab	$3,805,936	$4,320,316	$3,872,474	*	$1,464,729	$717,414	*	*	*	*	$2,030,719
	Bristol Bay Red King Crab	$2,239,310	$1,710,218	$1,601,146	$0	$0	$1,342,798	$1,617,569	$2,384,539	$3,147,969	$1,854,187	$1,589,774
	Bering Sea Opilio Crab	$5,355,095	$5,185,429	$5,010,382	$6,256,582	$7,418,577	$4,159,731	$5,401,449	$10,189,212	$9,856,760	$2,749,701	$6,158,292
	Bering Sea Tanner Crab	$1,288,358	$2,572,067	$1,494,420	*	$275,518	$188,602	$0	$0	$0	$0	$685,572
	BBR/BSO/BST Crab group	*	*	$8,105,948	*	$7,694,095	$5,691,131	*	*	$13,004,730	$4,603,889	$8,433,638
	Other 6 PMA Crab group	*	*	$1,299,244	*	$1,481,262	$1,175,668	*	*	$0	$0	$761,770
	All 9 PMA Crab group	$8,960,702	$9,688,280	$9,405,192	$9,312,787	$9,175,357	$6,866,800	$7,773,208	$13,163,141	$13,004,730	$4,603,889	$9,195,408
	Total All Fisheries	$12,766,638	$14,008,595	$13,277,665	$10,833,990	$10,640,086	$7,584,214	$9,348,709	$14,280,722	$13,983,919	$5,536,735	$11,226,127
Total AK	All fisheries other than PMA Crab	$16,026,271	$16,713,066	$16,505,738	$11,642,341	$17,115,492	$10,913,751	$13,793,036	$10,721,807	$13,801,828	$10,864,745	$13,809,807
	Bristol Bay Red King Crab	$14,987,657	$13,066,334	$13,798,354	$0	$0	$9,634,642	$7,230,020	$9,315,501	$17,697,596	$10,338,422	$9,606,852
	Bering Sea Opilio Crab	$39,041,894	$37,383,017	$38,980,829	$48,507,766	$39,803,495	$22,760,824	$24,864,675	$38,648,218	$47,505,618	$14,598,810	$35,209,515
	Bering Sea Tanner Crab	$13,942,613	$15,864,673	$11,890,330	$9,061,768	$2,970,713	$1,666,375	$0	$0	$0	$0	$5,539,647
	BBR/BSO/BST Crab group	$67,972,164	$66,314,024	$64,669,513	$57,569,534	$42,774,208	$34,061,840	$32,094,694	$47,963,719	$65,203,215	$24,937,232	$50,356,014
	Other 6 PMA Crab group	$6,988,742	$6,505,767	$8,843,686	$11,893,984	$10,027,854	$6,922,279	$8,664,919	$6,646,011	$5,080,427	$5,658,460	$7,723,213
	All 9 PMA Crab group	$74,960,906	$72,819,791	$73,513,198	$69,463,519	$52,802,061	$40,984,119	$40,759,613	$54,609,730	$70,283,642	$30,595,693	$58,079,227
	Total All Fisheries	$90,987,177	$89,532,856	$90,018,936	$81,105,860	$69,917,554	$51,897,870	$54,552,649	$65,331,537	$84,085,470	$41,460,438	$71,889,035

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total AK/WA/OR	All fisheries other than PMA Crab	$47,203,695	$55,972,711	$47,310,292	$41,059,260	$68,827,053	$34,781,642	$66,737,109	$42,719,089	$68,294,562	$52,948,103	$52,585,352
	Bristol Bay Red King Crab	$54,799,012	$41,545,440	$56,558,156	$0	$0	$32,831,761	$28,081,306	$36,543,041	$66,897,815	$35,383,194	$35,263,972
	Bering Sea Opilio Crab	$163,334,723	$158,587,181	$171,364,707	$193,297,865	$168,523,283	$86,241,067	$90,270,843	$132,752,685	$175,109,092	$54,454,901	$139,393,635
	Bering Sea Tanner Crab	$55,755,452	$58,867,958	$41,499,591	$34,884,126	$11,704,150	$4,505,473	$0	$0	$0	$0	$20,721,675
	BBR/BSO/BST Crab group	$273,889,186	$259,000,580	$269,422,454	$228,181,991	$180,227,433	$123,578,300	$118,352,149	$169,295,725	$242,006,907	$89,838,096	$195,379,282
	Other 6 PMA Crab group	$29,925,986	$28,558,710	$32,268,526	$52,013,908	$36,687,321	$27,588,128	$26,693,356	$17,836,260	$15,818,551	$19,874,449	$28,726,520
	All 9 PMA Crab group	$303,815,173	$287,559,290	$301,690,980	$280,195,899	$216,914,754	$151,166,428	$145,045,505	$187,131,986	$257,825,458	$109,712,545	$224,105,802
	Total All Fisheries	$351,018,868	$343,532,001	$349,001,272	$321,255,160	$285,741,806	$185,948,071	$211,782,613	$229,851,075	$326,120,020	$162,660,648	$276,691,153

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-18. Value of Harvest for PMA Crab Vessels from Alaska by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Total Community Harvest Value for Fisheries in Which PMA Crab Vessels Participate

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Anchorage	All fisheries other than PMA Crab	4.6%	9.1%	4.7%	*	8.7%	9.1%	*	*	*	*	5.7%
	Bristol Bay Red King Crab	27.2%	27.2%	30.4%	0.0%	0.0%	26.5%	10.6%	12.6%	27.0%	29.3%	18.1%
	Bering Sea Opilio Crab	*	*	47.9%	82.4%	64.5%	48.2%	51.3%	59.7%	62.8%	42.6%	55.5%
	Bering Sea Tanner Crab	*	24.4%	10.3%	*	5.1%	2.4%	0.0%	0.0%	0.0%	0.0%	4.7%
	BBR/BSO/BST Crab group	*	*	88.6%	*	69.7%	77.1%	61.9%	72.3%	89.9%	72.0%	78.3%
	Other 6 PMA Crab group	*	*	6.7%	*	21.7%	13.9%	*	*	*	*	16.0%
	All 9 PMA Crab group	95.4%	90.9%	95.3%	94.9%	91.3%	90.9%	*	*	*	*	94.3%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Homer	All fisheries other than PMA Crab	13.2%	12.7%	13.5%	4.8%	12.4%	10.6%	17.0%	7.5%	8.6%	16.8%	11.3%
	Bristol Bay Red King Crab	18.9%	21.8%	19.4%	0.0%	0.0%	24.1%	16.0%	16.4%	26.8%	38.4%	17.8%
	Bering Sea Opilio Crab	52.2%	43.8%	39.8%	67.9%	75.7%	54.7%	53.5%	69.8%	64.5%	44.9%	56.8%
	Bering Sea Tanner Crab	14.3%	20.1%	21.8%	18.2%	6.2%	3.7%	0.0%	0.0%	0.0%	0.0%	9.4%
	BBR/BSO/BST Crab group	*	*	81.0%	86.1%	81.8%	82.6%	*	*	*	*	84.0%
	Other 6 PMA Crab group	*	*	5.6%	9.1%	5.8%	6.8%	*	*	*	*	4.6%
	All 9 PMA Crab group	86.8%	87.3%	86.5%	95.2%	87.6%	89.4%	83.0%	92.5%	91.4%	83.2%	88.7%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
King Cove/Sand Point	All fisheries other than PMA Crab	*	*	24.2%	23.3%	53.8%	35.4%	31.7%	30.2%	21.0%	64.6%	31.7%
	Bristol Bay Red King Crab	18.8%	15.2%	12.6%	0.0%	0.0%	15.3%	19.7%	10.1%	25.3%	23.1%	12.0%
	Bering Sea Opilio Crab	*	*	46.1%	46.4%	30.1%	34.8%	39.7%	54.3%	53.7%	12.2%	41.5%
	Bering Sea Tanner Crab	*	23.3%	10.3%	13.7%	2.4%	2.4%	0.0%	0.0%	0.0%	0.0%	6.6%
	BBR/BSO/BST Crab group	*	*	68.9%	60.1%	32.6%	52.5%	59.3%	64.4%	79.0%	35.4%	60.1%
	Other 6 PMA Crab group	*	*	6.9%	16.6%	13.7%	12.1%	9.0%	5.5%	0.0%	0.0%	8.2%
	All 9 PMA Crab group	88.3%	90.1%	75.8%	76.7%	46.2%	64.6%	68.3%	69.8%	79.0%	35.4%	68.3%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Kodiak	All fisheries other than PMA Crab	17.2%	17.7%	16.9%	15.1%	23.0%	25.1%	30.4%	21.1%	21.6%	27.4%	20.3%
	Bristol Bay Red King Crab	14.8%	13.8%	14.7%	0.0%	0.0%	17.0%	10.7%	13.8%	18.3%	20.0%	12.2%
	Bering Sea Opilio Crab	40.9%	42.6%	44.4%	59.4%	57.4%	40.1%	41.1%	52.8%	50.7%	32.4%	46.7%
	Bering Sea Tanner Crab	17.0%	16.6%	13.0%	10.3%	4.9%	3.7%	0.0%	0.0%	0.0%	0.0%	8.4%
	BBR/BSO/BST Crab group	72.7%	73.0%	72.2%	69.7%	62.3%	60.7%	51.8%	66.6%	*	*	67.2%
	Other 6 PMA Crab group	10.1%	9.3%	10.9%	15.1%	14.8%	14.2%	17.8%	12.3%	*	*	12.5%
	All 9 PMA Crab group	82.8%	82.3%	83.1%	84.9%	77.0%	74.9%	69.6%	78.9%	78.4%	72.6%	79.7%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Other Alaska	All fisheries other than PMA Crab	29.8%	30.8%	29.2%	*	13.8%	9.5%	*	*	*	*	18.1%
	Bristol Bay Red King Crab	17.5%	12.2%	12.1%	0.0%	0.0%	17.7%	17.3%	16.7%	22.5%	33.5%	14.2%
	Bering Sea Opilio Crab	41.9%	37.0%	37.7%	57.7%	69.7%	54.8%	57.8%	71.3%	70.5%	49.7%	54.9%
	Bering Sea Tanner Crab	10.1%	18.4%	11.3%	*	2.6%	2.5%	0.0%	0.0%	0.0%	0.0%	6.1%
	BBR/BSO/BST Crab group	*	*	61.0%	*	72.3%	75.0%	*	*	93.0%	83.2%	75.1%
	Other 6 PMA Crab group	*	*	9.8%	*	13.9%	15.5%	*	*	0.0%	0.0%	6.8%
	All 9 PMA Crab group	70.2%	69.2%	70.8%	86.0%	86.2%	90.5%	83.1%	92.2%	93.0%	83.2%	81.9%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total AK	All fisheries other than PMA Crab	17.6%	18.7%	18.3%	14.4%	24.5%	21.0%	25.3%	16.4%	16.4%	26.2%	19.2%
	Bristol Bay Red King Crab	16.5%	14.6%	15.3%	0.0%	0.0%	18.6%	13.3%	14.3%	21.0%	24.9%	13.4%
	Bering Sea Opilio Crab	42.9%	41.8%	43.3%	59.8%	56.9%	43.9%	45.6%	59.2%	56.5%	35.2%	49.0%
	Bering Sea Tanner Crab	15.3%	17.7%	13.2%	11.2%	4.2%	3.2%	0.0%	0.0%	0.0%	0.0%	7.7%
	BBR/BSO/BST Crab group	74.7%	74.1%	71.8%	71.0%	61.2%	65.6%	58.8%	73.4%	77.5%	60.1%	70.0%
	Other 6 PMA Crab group	7.7%	7.3%	9.8%	14.7%	14.3%	13.3%	15.9%	10.2%	6.0%	13.6%	10.7%
	All 9 PMA Crab group	82.4%	81.3%	81.7%	85.6%	75.5%	79.0%	74.7%	83.6%	83.6%	73.8%	80.8%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total AK/WA/OR	All fisheries other than PMA Crab	13.4%	16.3%	13.6%	12.8%	24.1%	18.7%	31.5%	18.6%	20.9%	32.6%	19.0%
	Bristol Bay Red King Crab	15.6%	12.1%	16.2%	0.0%	0.0%	17.7%	13.3%	15.9%	20.5%	21.8%	12.7%
	Bering Sea Opilio Crab	46.5%	46.2%	49.1%	60.2%	59.0%	46.4%	42.6%	57.8%	53.7%	33.5%	50.4%
	Bering Sea Tanner Crab	15.9%	17.1%	11.9%	10.9%	4.1%	2.4%	0.0%	0.0%	0.0%	0.0%	7.5%
	BBR/BSO/BST Crab group	78.0%	75.4%	77.2%	71.0%	63.1%	66.5%	55.9%	73.7%	74.2%	55.2%	70.6%
	Other 6 PMA Crab group	8.5%	8.3%	9.2%	16.2%	12.8%	14.8%	12.6%	7.8%	4.9%	12.2%	10.4%
	All 9 PMA Crab group	86.6%	83.7%	86.4%	87.2%	75.9%	81.3%	68.5%	81.4%	79.1%	67.4%	81.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-19. Value of Harvest for PMA Crab Vessels from Alaska by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Total Value of Alaskan Harvest by Alaskan Vessels Fishing PMA Crab Fisheries

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Anchorage	All fisheries other than PMA Crab	1.4%	1.1%	1.2%	*	3.5%	4.3%	*	*	*	*	1.9%
	Bristol Bay Red King Crab	9.0%	4.4%	9.3%			14.3%	6.0%	6.5%	9.8%	8.9%	8.6%
	Bering Sea Opilio Crab	*	*	5.2%	6.5%	11.3%	11.0%	8.5%	7.4%	8.5%	9.2%	7.2%
	Bering Sea Tanner Crab	*	3.2%	3.6%	*	12.0%	7.4%					3.9%
	BBR/BSO/BST Crab group	*	*	5.7%	*	11.4%	11.7%	7.9%	7.2%	8.9%	9.1%	7.1%
	Other 6 PMA Crab group	*	*	3.2%	*	15.1%	10.4%	*	*	*	*	9.5%
	All 9 PMA Crab group	6.3%	2.6%	5.4%	5.2%	12.1%	11.5%	*	*	*	*	7.4%
	Total All Fisheries	5.5%	2.3%	4.7%	4.7%	10.0%	10.0%	7.5%	7.3%	7.6%	7.6%	6.4%
Homer	All fisheries other than PMA Crab	6.5%	5.4%	6.3%	3.0%	4.5%	5.1%	5.5%	4.5%	5.3%	7.5%	5.4%
	Bristol Bay Red King Crab	9.9%	11.8%	10.8%			13.2%	9.8%	11.2%	12.7%	18.1%	12.1%
	Bering Sea Opilio Crab	10.5%	8.3%	7.9%	10.3%	11.8%	12.7%	9.5%	11.5%	11.4%	15.0%	10.6%
	Bering Sea Tanner Crab	8.1%	8.9%	14.2%	14.8%	12.9%	11.8%					11.1%
	BBR/BSO/BST Crab group	*	*	9.7%	11.0%	11.9%	12.8%	*	*	*	*	10.9%
	Other 6 PMA Crab group	*	*	4.9%	5.6%	3.6%	5.2%	*	*	*	*	3.9%
	All 9 PMA Crab group	9.1%	8.5%	9.1%	10.1%	10.3%	11.5%	9.0%	10.8%	10.9%	13.3%	10.0%
	Total All Fisheries	8.6%	7.9%	8.6%	9.1%	8.9%	10.2%	8.1%	9.7%	10.0%	11.7%	9.1%
King Cove/Sand Point	All fisheries other than PMA Crab	*	*	9.0%	15.4%	37.7%	21.4%	14.2%	17.1%	9.3%	21.5%	14.9%
	Bristol Bay Red King Crab	6.8%	6.1%	5.6%			10.5%	16.8%	6.6%	8.8%	8.1%	8.1%
	Bering Sea Opilio Crab	*	*	7.2%	7.4%	9.1%	10.1%	9.9%	8.5%	6.9%	3.0%	7.7%
	Bering Sea Tanner Crab	*	7.8%	5.3%	11.6%	9.8%	9.5%					7.7%
	BBR/BSO/BST Crab group	*	*	6.5%	8.0%	9.1%	10.1%	11.4%	8.1%	7.4%	5.1%	7.8%
	Other 6 PMA Crab group	*	*	4.8%	10.8%	16.4%	11.5%	6.4%	5.0%	0.0%	0.0%	7.0%
	All 9 PMA Crab group	6.4%	6.5%	6.3%	8.5%	10.5%	10.4%	10.4%	7.8%	6.9%	4.2%	7.7%
	Total All Fisheries	6.0%	5.9%	6.8%	9.5%	17.2%	12.7%	11.3%	9.3%	7.3%	8.7%	9.1%
Kodiak	All fisheries other than PMA Crab	64.4%	64.5%	60.1%	66.8%	45.7%	62.6%	67.2%	66.6%	76.8%	61.2%	63.1%
	Bristol Bay Red King Crab	59.3%	64.6%	62.7%			48.1%	45.0%	50.1%	50.9%	47.0%	54.6%
	Bering Sea Opilio Crab	62.8%	69.7%	66.9%	62.9%	49.2%	48.0%	50.4%	46.2%	52.4%	54.0%	57.0%
	Bering Sea Tanner Crab	73.0%	63.9%	64.3%	58.6%	56.0%	60.0%					64.9%
	BBR/BSO/BST Crab group	64.1%	67.3%	65.5%	62.2%	49.6%	48.6%	49.2%	47.0%	*	*	57.4%
	Other 6 PMA Crab group	86.3%	87.6%	72.5%	65.3%	50.2%	55.9%	62.6%	62.4%	*	*	69.8%
	All 9 PMA Crab group	66.2%	69.1%	66.3%	62.8%	49.7%	49.9%	52.0%	48.9%	54.8%	57.7%	59.1%
	Total All Fisheries	65.9%	68.2%	65.2%	63.3%	48.8%	52.5%	55.8%	51.8%	58.4%	58.6%	59.8%
Other Alaska	All fisheries other than PMA Crab	23.7%	25.8%	23.5%	*	8.6%	6.6%	*	*	*	*	14.7%
	Bristol Bay Red King Crab	14.9%	13.1%	11.6%			13.9%	22.4%	25.6%	17.8%	17.9%	16.5%
	Bering Sea Opilio Crab	13.7%	13.9%	12.9%	12.9%	18.6%	18.3%	21.7%	26.4%	20.7%	18.8%	17.5%
	Bering Sea Tanner Crab	9.2%	16.2%	12.6%	*	9.3%	11.3%					12.4%
	BBR/BSO/BST Crab group	*	*	12.5%	*	18.0%	16.7%	*	*	19.9%	18.5%	16.7%
	Other 6 PMA Crab group	*	*	14.7%	*	14.8%	17.0%	*	*	0.0%	0.0%	9.9%
	All 9 PMA Crab group	12.0%	13.3%	12.8%	13.4%	17.4%	16.8%	19.1%	24.1%	18.5%	15.0%	15.8%
	Total All Fisheries	14.0%	15.6%	14.7%	13.4%	15.2%	14.6%	17.1%	21.9%	16.6%	13.4%	15.6%

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total AK	All fisheries other than PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bristol Bay Red King Crab	100.0%	100.0%	100.0%			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Opilio Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Tanner Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%
	BBR/BSO/BST Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other 6 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All 9 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-20. Value of Harvest for PMA Crab Vessels from Alaska by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Individual Fishery Grand Total of Value (all States) of Harvest Vessels Fishing PMA Crab Fisheries

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Anchorage	All fisheries other than PMA Crab	0.5%	0.3%	0.4%	*	0.9%	1.4%	*	*	*	*	0.5%
	Bristol Bay Red King Crab	2.5%	1.4%	2.3%			4.2%	1.6%	1.7%	2.6%	2.6%	2.3%
	Bering Sea Opilio Crab	*	*	1.2%	1.6%	2.7%	2.9%	2.3%	2.2%	2.3%	2.5%	1.8%
	Bering Sea Tanner Crab	*	0.9%	1.0%	*	3.0%	2.7%					1.0%
	BBR/BSO/BST Crab group	*	*	1.4%	*	2.7%	3.2%	2.2%	2.0%	2.4%	2.5%	1.8%
	Other 6 PMA Crab group	*	*	0.9%	*	4.1%	2.6%	*	*	*	*	2.5%
	All 9 PMA Crab group	1.6%	0.7%	1.3%	1.3%	2.9%	3.1%	*	*	*	*	1.9%
	Total All Fisheries	1.4%	0.6%	1.2%	1.2%	2.4%	2.8%	1.9%	2.1%	2.0%	1.9%	1.7%
Homer	All fisheries other than PMA Crab	2.2%	1.6%	2.2%	0.9%	1.1%	1.6%	1.1%	1.1%	1.1%	1.5%	1.4%
	Bristol Bay Red King Crab	2.7%	3.7%	2.6%			3.9%	2.5%	2.9%	3.4%	5.3%	3.3%
	Bering Sea Opilio Crab	2.5%	2.0%	1.8%	2.6%	2.8%	3.3%	2.6%	3.3%	3.1%	4.0%	2.7%
	Bering Sea Tanner Crab	2.0%	2.4%	4.1%	3.8%	3.3%	4.4%					3.0%
	BBR/BSO/BST Crab group	*	*	2.3%	2.8%	2.8%	3.5%	*	*	*	*	2.8%
	Other 6 PMA Crab group	*	*	1.3%	1.3%	1.0%	1.3%	*	*	*	*	1.1%
	All 9 PMA Crab group	2.2%	2.1%	2.2%	2.5%	2.5%	3.1%	2.5%	3.1%	3.0%	3.7%	2.6%
	Total All Fisheries	2.2%	2.1%	2.2%	2.3%	2.2%	2.8%	2.1%	2.8%	2.6%	3.0%	2.4%
King Cove/Sand Point	All fisheries other than PMA Crab	*	*	3.1%	4.4%	9.4%	6.7%	2.9%	4.3%	1.9%	4.4%	3.9%
	Bristol Bay Red King Crab	1.9%	1.9%	1.4%			3.1%	4.3%	1.7%	2.3%	2.4%	2.2%
	Bering Sea Opilio Crab	*	*	1.6%	1.9%	2.1%	2.7%	2.7%	2.5%	1.9%	0.8%	1.9%
	Bering Sea Tanner Crab	*	2.1%	1.5%	3.0%	2.5%	3.5%					2.1%
	BBR/BSO/BST Crab group	*	*	1.6%	2.0%	2.2%	2.8%	3.1%	2.3%	2.0%	1.4%	2.0%
	Other 6 PMA Crab group	*	*	1.3%	2.5%	4.5%	2.9%	2.1%	1.9%	0.0%	0.0%	1.9%
	All 9 PMA Crab group	1.6%	1.7%	1.5%	2.1%	2.6%	2.8%	2.9%	2.3%	1.9%	1.2%	2.0%
	Total All Fisheries	1.6%	1.5%	1.8%	2.4%	4.2%	3.5%	2.9%	2.6%	1.9%	2.2%	2.4%
Kodiak	All fisheries other than PMA Crab	21.8%	19.3%	21.0%	18.9%	11.4%	19.6%	13.9%	16.7%	15.5%	12.6%	16.6%
	Bristol Bay Red King Crab	16.2%	20.3%	15.3%	#DIV/0!	#DIV/0!	14.1%	11.6%	12.8%	13.5%	13.7%	14.9%
	Bering Sea Opilio Crab	15.0%	16.4%	15.2%	15.8%	11.6%	12.7%	13.9%	13.5%	14.2%	14.5%	14.4%
	Bering Sea Tanner Crab	18.3%	17.2%	18.4%	15.2%	14.2%	22.2%					17.3%
	BBR/BSO/BST Crab group	15.9%	17.2%	15.7%	15.7%	11.8%	13.4%	13.3%	13.3%	*	*	14.8%
	Other 6 PMA Crab group	20.1%	19.9%	19.9%	14.9%	13.7%	14.0%	20.3%	23.2%	*	*	18.8%
	All 9 PMA Crab group	16.3%	17.5%	16.2%	15.6%	12.1%	13.5%	14.6%	14.3%	15.0%	16.1%	15.3%
	Total All Fisheries	17.1%	17.8%	16.8%	16.0%	11.9%	14.7%	14.4%	14.7%	15.1%	14.9%	15.5%
Other Alaska	All fisheries other than PMA Crab	8.1%	7.7%	8.2%	*	2.1%	2.1%	*	*	*	*	3.9%
	Bristol Bay Red King Crab	4.1%	4.1%	2.8%			4.1%	5.8%	6.5%	4.7%	5.2%	4.5%
	Bering Sea Opilio Crab	3.3%	3.3%	2.9%	3.2%	4.4%	4.8%	6.0%	7.7%	5.6%	5.0%	4.4%
	Bering Sea Tanner Crab	2.3%	4.4%	3.6%	*	2.4%	4.2%					3.3%
	BBR/BSO/BST Crab group	*	*	3.0%	*	4.3%	4.6%	*	*	5.4%	5.1%	4.3%
	Other 6 PMA Crab group	*	*	4.0%	*	4.0%	4.3%	*	*	0.0%	0.0%	2.7%
	All 9 PMA Crab group	2.9%	3.4%	3.1%	3.3%	4.2%	4.5%	5.4%	7.0%	5.0%	4.2%	4.1%
	Total All Fisheries	3.6%	4.1%	3.8%	3.4%	3.7%	4.1%	4.4%	6.2%	4.3%	3.4%	4.1%

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total AK	All fisheries other than PMA Crab	34.0%	29.9%	34.9%	28.4%	24.9%	31.4%	20.7%	25.1%	20.2%	20.5%	26.3%
	Bristol Bay Red King Crab	27.4%	31.5%	24.4%			29.3%	25.7%	25.5%	26.5%	29.2%	27.2%
	Bering Sea Opilio Crab	23.9%	23.6%	22.7%	25.1%	23.6%	26.4%	27.5%	29.1%	27.1%	26.8%	25.3%
	Bering Sea Tanner Crab	25.0%	26.9%	28.7%	26.0%	25.4%	37.0%					26.7%
	BBR/BSO/BST Crab group	24.8%	25.6%	24.0%	25.2%	23.7%	27.6%	27.1%	28.3%	26.9%	27.8%	25.8%
	Other 6 PMA Crab group	23.4%	22.8%	27.4%	22.9%	27.3%	25.1%	32.5%	37.3%	32.1%	28.5%	26.9%
	All 9 PMA Crab group	24.7%	25.3%	24.4%	24.8%	24.3%	27.1%	28.1%	29.2%	27.3%	27.9%	25.9%
	Total All Fisheries	25.9%	26.1%	25.8%	25.2%	24.5%	27.9%	25.8%	28.4%	25.8%	25.5%	26.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-21. Value of Harvest for PMA Crab Vessels from Alaska by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Grand Total of Value of Harvest from All Alaskan Fisheries for Vessels Fishing PMA Crab Fisheries

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Anchorage	All fisheries other than PMA Crab	0.1%	0.1%	0.1%	*	0.2%	0.3%	*	*	*	*	0.1%
	Bristol Bay Red King Crab	0.4%	0.2%	0.4%	0.0%	0.0%	0.7%	0.2%	0.3%	0.5%	0.6%	0.3%
	Bering Sea Opilio Crab	*	*	0.6%	1.0%	1.6%	1.3%	1.0%	1.2%	1.2%	0.8%	0.9%
	Bering Sea Tanner Crab	*	0.1%	0.1%	*	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
	BBR/BSO/BST Crab group	*	*	1.1%	*	1.7%	2.2%	1.2%	1.5%	1.8%	1.4%	1.3%
	Other 6 PMA Crab group	*	*	0.1%	*	0.5%	0.4%	*	*	*	*	0.3%
	All 9 PMA Crab group	1.4%	0.6%	1.1%	1.1%	2.2%	2.5%	*	*	*	*	1.6%
	Total All Fisheries	1.4%	0.6%	1.2%	1.2%	2.4%	2.8%	1.9%	2.1%	2.0%	1.9%	1.7%
Homer	All fisheries other than PMA Crab	0.3%	0.3%	0.3%	0.1%	0.3%	0.3%	0.4%	0.2%	0.2%	0.5%	0.3%
	Bristol Bay Red King Crab	0.4%	0.4%	0.4%	0.0%	0.0%	0.7%	0.3%	0.5%	0.7%	1.1%	0.4%
	Bering Sea Opilio Crab	1.2%	0.9%	0.9%	1.6%	1.6%	1.6%	1.1%	1.9%	1.7%	1.3%	1.3%
	Bering Sea Tanner Crab	0.3%	0.4%	0.5%	0.4%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%
	BBR/BSO/BST Crab group	*	*	1.8%	2.0%	1.8%	2.3%	*	*	*	*	2.0%
	Other 6 PMA Crab group	*	*	0.1%	0.2%	0.1%	0.2%	*	*	*	*	0.1%
	All 9 PMA Crab group	1.9%	1.8%	1.9%	2.2%	1.9%	2.5%	1.7%	2.6%	2.4%	2.5%	2.1%
	Total All Fisheries	2.2%	2.1%	2.2%	2.3%	2.2%	2.8%	2.1%	2.8%	2.6%	3.0%	2.4%
King Cove/Sand Point	All fisheries other than PMA Crab	*	*	0.4%	0.6%	2.3%	1.3%	0.9%	0.8%	0.4%	1.4%	0.7%
	Bristol Bay Red King Crab	0.3%	0.2%	0.2%	0.0%	0.0%	0.5%	0.6%	0.3%	0.5%	0.5%	0.3%
	Bering Sea Opilio Crab	*	*	0.8%	1.1%	1.3%	1.2%	1.2%	1.4%	1.0%	0.3%	1.0%
	Bering Sea Tanner Crab	*	0.4%	0.2%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%
	BBR/BSO/BST Crab group	*	*	1.2%	1.4%	1.4%	1.9%	1.7%	1.7%	1.5%	0.8%	1.4%
	Other 6 PMA Crab group	*	*	0.1%	0.4%	0.6%	0.4%	0.3%	0.1%	0.0%	0.0%	0.2%
	All 9 PMA Crab group	1.4%	1.4%	1.3%	1.8%	1.9%	2.3%	2.0%	1.8%	1.5%	0.8%	1.6%
	Total All Fisheries	1.6%	1.5%	1.8%	2.4%	4.2%	3.5%	2.9%	2.6%	1.9%	2.2%	2.4%
Kodiak	All fisheries other than PMA Crab	2.9%	3.1%	2.8%	2.4%	2.7%	3.7%	4.4%	3.1%	3.2%	4.1%	3.1%
	Bristol Bay Red King Crab	2.5%	2.5%	2.5%	0.0%	0.0%	2.5%	1.5%	2.0%	2.8%	3.0%	1.9%
	Bering Sea Opilio Crab	7.0%	7.6%	7.5%	9.5%	6.8%	5.9%	5.9%	7.8%	7.6%	4.8%	7.3%
	Bering Sea Tanner Crab	2.9%	2.9%	2.2%	1.7%	0.6%	0.5%	0.0%	0.0%	0.0%	0.0%	1.3%
	BBR/BSO/BST Crab group	12.4%	13.0%	12.1%	11.2%	7.4%	8.9%	7.4%	9.8%	*	*	10.5%
	Other 6 PMA Crab group	1.7%	1.7%	1.8%	2.4%	1.8%	2.1%	2.6%	1.8%	*	*	1.9%
	All 9 PMA Crab group	14.1%	14.6%	14.0%	13.6%	9.2%	11.0%	10.0%	11.6%	11.8%	10.8%	12.4%
	Total All Fisheries	17.1%	17.8%	16.8%	16.0%	11.9%	14.7%	14.4%	14.7%	15.1%	14.9%	15.5%
Other Alaska	All fisheries other than PMA Crab	1.1%	1.3%	1.1%	*	0.5%	0.4%	*	*	*	*	0.7%
	Bristol Bay Red King Crab	0.6%	0.5%	0.5%	0.0%	0.0%	0.7%	0.8%	1.0%	1.0%	1.1%	0.6%
	Bering Sea Opilio Crab	1.5%	1.5%	1.4%	1.9%	2.6%	2.2%	2.6%	4.4%	3.0%	1.7%	2.2%
	Bering Sea Tanner Crab	0.4%	0.7%	0.4%	*	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%
	BBR/BSO/BST Crab group	*	*	2.3%	*	2.7%	3.1%	*	*	4.0%	2.8%	3.0%
	Other 6 PMA Crab group	*	*	0.4%	*	0.5%	0.6%	*	*	0.0%	0.0%	0.3%
	All 9 PMA Crab group	2.6%	2.8%	2.7%	2.9%	3.2%	3.7%	3.7%	5.7%	4.0%	2.8%	3.3%
	Total All Fisheries	3.6%	4.1%	3.8%	3.4%	3.7%	4.1%	4.4%	6.2%	4.3%	3.4%	4.1%

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total AK	All fisheries other than PMA Crab	4.6%	4.9%	4.7%	3.6%	6.0%	5.9%	6.5%	4.7%	4.2%	6.7%	5.0%
	Bristol Bay Red King Crab	4.3%	3.8%	4.0%	0.0%	0.0%	5.2%	3.4%	4.1%	5.4%	6.4%	3.5%
	Bering Sea Opilio Crab	11.1%	10.9%	11.2%	15.1%	13.9%	12.2%	11.7%	16.8%	14.6%	9.0%	12.7%
	Bering Sea Tanner Crab	4.0%	4.6%	3.4%	2.8%	1.0%	0.9%	0.0%	0.0%	0.0%	0.0%	2.0%
	BBR/BSO/BST Crab group	19.4%	19.3%	18.5%	17.9%	15.0%	18.3%	15.2%	20.9%	20.0%	15.3%	18.2%
	Other 6 PMA Crab group	2.0%	1.9%	2.5%	3.7%	3.5%	3.7%	4.1%	2.9%	1.6%	3.5%	2.8%
	All 9 PMA Crab group	21.4%	21.2%	21.1%	21.6%	18.5%	22.0%	19.2%	23.8%	21.6%	18.8%	21.0%
	Total All Fisheries	25.9%	26.1%	25.8%	25.2%	24.5%	27.9%	25.8%	28.4%	25.8%	25.5%	26.0%
Total AK/WA/OR	All fisheries other than PMA Crab	13.4%	16.3%	13.6%	12.8%	24.1%	18.7%	31.5%	18.6%	20.9%	32.6%	19.0%
	Bristol Bay Red King Crab	15.6%	12.1%	16.2%	0.0%	0.0%	17.7%	13.3%	15.9%	20.5%	21.8%	12.7%
	Bering Sea Opilio Crab	46.5%	46.2%	49.1%	60.2%	59.0%	46.4%	42.6%	57.8%	53.7%	33.5%	50.4%
	Bering Sea Tanner Crab	15.9%	17.1%	11.9%	10.9%	4.1%	2.4%	0.0%	0.0%	0.0%	0.0%	7.5%
	BBR/BSO/BST Crab group	78.0%	75.4%	77.2%	71.0%	63.1%	66.5%	55.9%	73.7%	74.2%	55.2%	70.6%
	Other 6 PMA Crab group	8.5%	8.3%	9.2%	16.2%	12.8%	14.8%	12.6%	7.8%	4.9%	12.2%	10.4%
	All 9 PMA Crab group	86.6%	83.7%	86.4%	87.2%	75.9%	81.3%	68.5%	81.4%	79.1%	67.4%	81.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 3: Harvest Value Data, Subset 3 - State of Washington Tables

The following tables consist of State of Washington tables that aggregate harvest value at the level of the named community of residence of the owner of the vessel, for those communities for which harvest information is potentially nonconfidential, by fishery category and year. Named communities for Washington tables are S-T CMSA and "Other Washington."

- Table A3-22 provides the value of the harvest for fisheries categories for each year for vessels owned by the residents of named communities as well as total for the state as a whole, and overall totals for fisheries as a whole.

- Table A3-23 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of all fisheries for those vessels from that named community (as a measure of community fleet dependence on PMA crab).

- Table A3-24 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of each individual fishery category for the total state fishery category.

- Table A3-25 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of each individual fishery category for the total fishery category (all states combined).

- Table A3-26 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of all fisheries categories combined for all states.

Table A3-22. Value of Harvest (in Dollars) for PMA Crab Vessels from Washington by Fishery Category, Community of Vessel Owner, and Year (1991-2000)

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
S-T CMSA	All fisheries other than PMA Crab	$25,126,651	$27,983,989	$23,409,467	$25,104,446	$44,273,623	$19,010,703	$45,474,688	$26,754,742	$44,549,113	$34,637,813	$31,632,523
	Bristol Bay Red King Crab	$34,419,234	$25,634,921	$36,167,295	$0	$0	$19,588,607	$17,860,719	$22,385,110	$41,347,912	$21,175,679	$21,857,948
	Bering Sea Opilio Crab	$113,119,906	$108,079,046	$114,982,384	$125,409,383	$109,216,188	$55,095,664	$54,594,196	$80,094,379	$106,619,910	$32,488,718	$89,969,977
	Bering Sea Tanner Crab	$37,707,814	$37,644,647	$24,927,204	$21,350,530	$7,554,556	$2,446,332	$0	$0	$0	$0	$13,163,108
	BBR/BSO/BST Crab group	*	$171,358,615	*	$146,759,913	$116,770,744	$77,130,603	$72,454,915	$102,479,489	$147,967,822	$53,664,397	$124,991,034
	Other 6 PMA Crab group	*	$17,826,109	*	$29,777,498	$20,668,191	$16,588,258	$14,481,518	$8,569,601	$7,458,718	$8,994,392	$16,168,524
	All 9 PMA Crab group	$204,437,204	$189,184,724	$194,207,588	$176,537,411	$137,438,935	$93,718,861	$86,936,433	$111,049,090	$155,426,540	$62,658,789	$141,159,558
	Total All Fisheries	$229,563,855	$217,168,712	$217,617,055	$201,641,857	$181,712,558	$112,729,563	$132,411,121	$137,803,832	$199,975,654	$97,296,602	$172,792,081
Other Washington	All fisheries other than PMA Crab	$507,541	$1,698,413	$1,142,217	$659,200	$2,174,546	$108,065	$703,765	$440,623	$1,569,126	$1,319,501	$1,032,300
	Bristol Bay Red King Crab	$2,105,562	$1,115,746	$2,435,860	$0	$0	$1,666,903	$1,624,122	$1,778,811	$3,306,305	$1,541,511	$1,557,482
	Bering Sea Opilio Crab	$4,945,835	$5,989,838	$6,600,835	$9,133,471	$9,394,480	$3,956,619	$4,714,007	$6,476,322	$10,208,364	$2,847,438	$6,426,721
	Bering Sea Tanner Crab	$1,643,395	$2,304,369	$1,847,124	$1,309,147	$374,513	$176,071	$0	$0	$0	$0	$765,462
	BBR/BSO/BST Crab group	$8,694,792	$9,409,953	$10,883,818	$10,442,617	$9,768,993	$5,799,593	$6,338,129	$8,255,133	$13,514,669	$4,388,950	$8,749,665
	Other 6 PMA Crab group	$411,132	$2,049,471	$1,448,197	$1,106,410	$1,546,227	$654,621	$608,441	$485,909	$0	$0	$831,041
	All 9 PMA Crab group	$9,105,924	$11,459,424	$12,332,015	$11,549,027	$11,315,220	$6,454,214	$6,946,570	$8,741,042	$13,514,669	$4,388,950	$9,580,705
	Total All Fisheries	$9,613,465	$13,157,836	$13,474,232	$12,208,228	$13,489,766	$6,562,278	$7,650,335	$9,181,665	$15,083,795	$5,708,450	$10,613,005
Total WA	All fisheries other than PMA Crab	$25,634,192	$29,682,401	$24,551,684	$25,763,647	$46,448,169	$19,118,767	$46,178,453	$27,195,365	$46,118,240	$35,957,313	$32,664,823
	Bristol Bay Red King Crab	$36,524,795	$26,750,667	$38,603,154	$0	$0	$21,255,510	$19,484,841	$24,163,921	$44,654,217	$22,717,190	$23,415,430
	Bering Sea Opilio Crab	$118,065,741	$114,068,885	$121,583,219	$134,542,853	$118,610,668	$59,052,283	$59,308,202	$86,570,702	$116,828,274	$35,336,157	$96,396,698
	Bering Sea Tanner Crab	$39,351,210	$39,949,016	$26,774,328	$22,659,677	$7,929,070	$2,622,403	$0	$0	$0	$0	$13,928,570
	BBR/BSO/BST Crab group	$193,941,746	$180,768,568	$186,960,701	$157,202,530	$126,539,737	$82,930,196	$78,793,044	$110,734,623	$161,482,491	$58,053,347	$133,740,698
	Other 6 PMA Crab group	$19,601,382	$19,875,580	$19,578,902	$30,883,908	$22,214,418	$17,242,878	$15,089,959	$9,055,510	$7,458,718	$8,994,392	$16,999,565
	All 9 PMA Crab group	$213,543,128	$200,644,147	$206,539,603	$188,086,438	$148,754,155	$100,173,074	$93,883,003	$119,790,133	$168,941,209	$67,047,739	$150,740,263
	Total All Fisheries	$239,177,320	$230,326,549	$231,091,287	$213,850,085	$195,202,324	$119,291,841	$140,061,456	$146,985,498	$215,059,449	$103,005,052	$183,405,086
Total AK/WA/OR	All fisheries other than PMA Crab	$47,203,695	$55,972,711	$47,310,292	$41,059,260	$68,827,053	$34,781,642	$66,737,109	$42,719,089	$68,294,562	$52,948,103	$52,585,352
	Bristol Bay Red King Crab	$54,799,012	$41,545,440	$56,558,156	$0	$0	$32,831,761	$28,081,306	$36,543,041	$66,897,815	$35,383,194	$35,263,972
	Bering Sea Opilio Crab	$163,334,723	$158,587,181	$171,364,707	$193,297,865	$168,523,283	$86,241,067	$90,270,843	$132,752,685	$175,109,092	$54,454,901	$139,393,635
	Bering Sea Tanner Crab	$55,755,452	$58,867,958	$41,499,591	$34,884,126	$11,704,150	$4,505,473	$0	$0	$0	$0	$20,721,675
	BBR/BSO/BST Crab group	$273,889,186	$259,000,580	$269,422,454	$228,181,991	$180,227,433	$123,578,300	$118,352,149	$169,295,725	$242,006,907	$89,838,096	$195,379,282
	Other 6 PMA Crab group	$29,925,986	$28,558,710	$32,268,526	$52,013,908	$36,687,321	$27,588,128	$26,693,356	$17,836,260	$15,818,551	$19,874,449	$28,726,520
	All 9 PMA Crab group	$303,815,173	$287,559,290	$301,690,980	$280,195,899	$216,914,754	$151,166,428	$145,045,505	$187,131,986	$257,825,458	$109,712,545	$224,105,802
	Total All Fisheries	$351,018,868	$343,532,001	$349,001,272	$321,255,160	$285,741,806	$185,948,071	$211,782,613	$229,851,075	$326,120,020	$162,660,648	$276,691,153

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-23. Value of Harvest for PMA Crab Vessels from Washington by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Total Community Harvest Value for Fisheries in Which PMA Crab Vessels Participate

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
S-T CMSA	All fisheries other than PMA Crab	10.9%	12.9%	10.8%	12.5%	24.4%	16.9%	34.3%	19.4%	22.3%	35.6%	18.3%
	Bristol Bay Red King Crab	15.0%	11.8%	16.6%	0.0%	0.0%	17.4%	13.5%	16.2%	20.7%	21.8%	12.6%
	Bering Sea Opilio Crab	49.3%	49.8%	52.8%	62.2%	60.1%	48.9%	41.2%	58.1%	53.3%	33.4%	52.1%
	Bering Sea Tanner Crab	16.4%	17.3%	11.5%	10.6%	4.2%	2.2%	0.0%	0.0%	0.0%	0.0%	7.6%
	BBR/BSO/BST Crab group	*	78.9%	*	72.8%	64.3%	68.4%	54.7%	74.4%	74.0%	55.2%	72.3%
	Other 6 PMA Crab group	*	8.2%	*	14.8%	11.4%	14.7%	10.9%	6.2%	3.7%	9.2%	9.4%
	All 9 PMA Crab group	89.1%	87.1%	89.2%	87.5%	75.6%	83.1%	65.7%	80.6%	77.7%	64.4%	81.7%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Other Washington	All fisheries other than PMA Crab	5.3%	12.9%	8.5%	5.4%	16.1%	1.6%	9.2%	4.8%	10.4%	23.1%	9.7%
	Bristol Bay Red King Crab	21.9%	8.5%	18.1%	0.0%	0.0%	25.4%	21.2%	19.4%	21.9%	27.0%	14.7%
	Bering Sea Opilio Crab	51.4%	45.5%	49.0%	74.8%	69.6%	60.3%	61.6%	70.5%	67.7%	49.9%	60.6%
	Bering Sea Tanner Crab	17.1%	17.5%	13.7%	10.7%	2.8%	2.7%	0.0%	0.0%	0.0%	0.0%	7.2%
	BBR/BSO/BST Crab group	90.4%	71.5%	80.8%	85.5%	72.4%	88.4%	82.8%	89.9%	89.6%	76.9%	82.4%
	Other 6 PMA Crab group	4.3%	15.6%	10.7%	9.1%	11.5%	10.0%	8.0%	5.3%	0.0%	0.0%	7.8%
	All 9 PMA Crab group	94.7%	87.1%	91.5%	94.6%	83.9%	98.4%	90.8%	95.2%	89.6%	76.9%	90.3%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total WA	All fisheries other than PMA Crab	10.7%	12.9%	10.6%	12.0%	23.8%	16.0%	33.0%	18.5%	21.4%	34.9%	17.8%
	Bristol Bay Red King Crab	15.3%	11.6%	16.7%	0.0%	0.0%	17.8%	13.9%	16.4%	20.8%	22.1%	12.8%
	Bering Sea Opilio Crab	49.4%	49.5%	52.6%	62.9%	60.8%	49.5%	42.3%	58.9%	54.3%	34.3%	52.6%
	Bering Sea Tanner Crab	16.5%	17.3%	11.6%	10.6%	4.1%	2.2%	0.0%	0.0%	0.0%	0.0%	7.6%
	BBR/BSO/BST Crab group	81.1%	78.5%	80.9%	73.5%	64.8%	69.5%	56.3%	75.3%	75.1%	56.4%	72.9%
	Other 6 PMA Crab group	8.2%	8.6%	8.5%	14.4%	11.4%	14.5%	10.8%	6.2%	3.5%	8.7%	9.3%
	All 9 PMA Crab group	89.3%	87.1%	89.4%	88.0%	76.2%	84.0%	67.0%	81.5%	78.6%	65.1%	82.2%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total AK/WA/OR	All fisheries other than PMA Crab	13.4%	16.3%	13.6%	12.8%	24.1%	18.7%	31.5%	18.6%	20.9%	32.6%	19.0%
	Bristol Bay Red King Crab	15.6%	12.1%	16.2%	0.0%	0.0%	17.7%	13.3%	15.9%	20.5%	21.8%	12.7%
	Bering Sea Opilio Crab	46.5%	46.2%	49.1%	60.2%	59.0%	46.4%	42.6%	57.8%	53.7%	33.5%	50.4%
	Bering Sea Tanner Crab	15.9%	17.1%	11.9%	10.9%	4.1%	2.4%	0.0%	0.0%	0.0%	0.0%	7.5%
	BBR/BSO/BST Crab group	78.0%	75.4%	77.2%	71.0%	63.1%	66.5%	55.9%	73.7%	74.2%	55.2%	70.6%
	Other 6 PMA Crab group	8.5%	8.3%	9.2%	16.2%	12.8%	14.8%	12.6%	7.8%	4.9%	12.2%	10.4%
	All 9 PMA Crab group	86.6%	83.7%	86.4%	87.2%	75.9%	81.3%	68.5%	81.4%	79.1%	67.4%	81.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-24. Value of Harvest for PMA Crab Vessels from Washington by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Total Value of Alaskan Harvest by Washington Vessels Fishing PMA Crab Fisheries

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
S-T CMSA	All fisheries other than PMA Crab	98.0%	94.3%	95.3%	97.4%	95.3%	99.4%	98.5%	98.4%	96.6%	96.3%	96.8%
	Bristol Bay Red King Crab	94.2%	95.8%	93.7%			92.2%	91.7%	92.6%	92.6%	93.2%	93.3%
	Bering Sea Opilio Crab	95.8%	94.7%	94.6%	93.2%	92.1%	93.3%	92.1%	92.5%	91.3%	91.9%	93.3%
	Bering Sea Tanner Crab	95.8%	94.2%	93.1%	94.2%	95.3%	93.3%					94.5%
	BBR/BSO/BST Crab group	*	94.8%	*	93.4%	92.3%	93.0%	92.0%	92.5%	91.6%	92.4%	93.5%
	Other 6 PMA Crab group	*	89.7%	*	96.4%	93.0%	96.2%	96.0%	94.6%	100.0%	100.0%	95.1%
	All 9 PMA Crab group	95.7%	94.3%	94.0%	93.9%	92.4%	93.6%	92.6%	92.7%	92.0%	93.5%	93.6%
	Total All Fisheries	96.0%	94.3%	94.2%	94.3%	93.1%	94.5%	94.5%	93.8%	93.0%	94.5%	94.2%
Other Washington	All fisheries other than PMA Crab	2.0%	5.7%	4.7%	2.6%	4.7%	0.6%	1.5%	1.6%	3.4%	3.7%	3.2%
	Bristol Bay Red King Crab	5.8%	4.2%	6.3%			7.8%	8.3%	7.4%	7.4%	6.8%	6.7%
	Bering Sea Opilio Crab	4.2%	5.3%	5.4%	6.8%	7.9%	6.7%	7.9%	7.5%	8.7%	8.1%	6.7%
	Bering Sea Tanner Crab	4.2%	5.8%	6.9%	5.8%	4.7%	6.7%					5.5%
	BBR/BSO/BST Crab group	4.5%	5.2%	5.8%	6.6%	7.7%	7.0%	8.0%	7.5%	8.4%	7.6%	6.5%
	Other 6 PMA Crab group	2.1%	10.3%	7.4%	3.6%	7.0%	3.8%	4.0%	5.4%	0.0%	0.0%	4.9%
	All 9 PMA Crab group	4.3%	5.7%	6.0%	6.1%	7.6%	6.4%	7.4%	7.3%	8.0%	6.5%	6.4%
	Total All Fisheries	4.0%	5.7%	5.8%	5.7%	6.9%	5.5%	5.5%	6.2%	7.0%	5.5%	5.8%
Total WA	All fisheries other than PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bristol Bay Red King Crab	100.0%	100.0%	100.0%			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Opilio Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Tanner Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%
	BBR/BSO/BST Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other 6 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All 9 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-25. Value of Harvest for PMA Crab Vessels from Washington by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Individual Fishery Grand Total of Value (all States) of Harvest by all Vessels Fishing PMA Crab Fisheries

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
S-T CMSA	All fisheries other than PMA Crab	53.2%	50.0%	49.5%	61.1%	64.3%	54.7%	68.1%	62.6%	65.2%	65.4%	60.2%
	Bristol Bay Red King Crab	62.8%	61.7%	63.9%			59.7%	63.6%	61.3%	61.8%	59.8%	62.0%
	Bering Sea Opilio Crab	69.3%	68.2%	67.1%	64.9%	64.8%	63.9%	60.5%	60.3%	60.9%	59.7%	64.5%
	Bering Sea Tanner Crab	67.6%	63.9%	60.1%	61.2%	64.5%	54.3%					63.5%
	BBR/BSO/BST Crab group	*	66.2%	*	64.3%	64.8%	62.4%	61.2%	60.5%	61.1%	59.7%	64.0%
	Other 6 PMA Crab group	*	62.4%	*	57.2%	56.3%	60.1%	54.3%	48.0%	47.2%	45.3%	56.3%
	All 9 PMA Crab group	67.3%	65.8%	64.4%	63.0%	63.4%	62.0%	59.9%	59.3%	60.3%	57.1%	63.0%
	Total All Fisheries	65.4%	63.2%	62.4%	62.8%	63.6%	60.6%	62.5%	60.0%	61.3%	59.8%	62.4%
Other Washington	All fisheries other than PMA Crab	1.1%	3.0%	2.4%	1.6%	3.2%	0.3%	1.1%	1.0%	2.3%	2.5%	2.0%
	Bristol Bay Red King Crab	3.8%	2.7%	4.3%			5.1%	5.8%	4.9%	4.9%	4.4%	4.4%
	Bering Sea Opilio Crab	3.0%	3.8%	3.9%	4.7%	5.6%	4.6%	5.2%	4.9%	5.8%	5.2%	4.6%
	Bering Sea Tanner Crab	2.9%	3.9%	4.5%	3.8%	3.2%	3.9%					3.7%
	BBR/BSO/BST Crab group	3.2%	3.6%	4.0%	4.6%	5.4%	4.7%	5.4%	4.9%	5.6%	4.9%	4.5%
	Other 6 PMA Crab group	1.4%	7.2%	4.5%	2.1%	4.2%	2.4%	2.3%	2.7%	0.0%	0.0%	2.9%
	All 9 PMA Crab group	3.0%	4.0%	4.1%	4.1%	5.2%	4.3%	4.8%	4.7%	5.2%	4.0%	4.3%
	Total All Fisheries	2.7%	3.8%	3.9%	3.8%	4.7%	3.5%	3.6%	4.0%	4.6%	3.5%	3.8%
Total WA	All fisheries other than PMA Crab	54.3%	53.0%	51.9%	62.7%	67.5%	55.0%	69.2%	63.7%	67.5%	67.9%	62.1%
	Bristol Bay Red King Crab	66.7%	64.4%	68.3%			64.7%	69.4%	66.1%	66.7%	64.2%	66.4%
	Bering Sea Opilio Crab	72.3%	71.9%	70.9%	69.6%	70.4%	68.5%	65.7%	65.2%	66.7%	64.9%	69.2%
	Bering Sea Tanner Crab	70.6%	67.9%	64.5%	65.0%	67.7%	58.2%					67.2%
	BBR/BSO/BST Crab group	70.8%	69.8%	69.4%	68.9%	70.2%	67.1%	66.6%	65.4%	66.7%	64.6%	68.5%
	Other 6 PMA Crab group	65.5%	69.6%	60.7%	59.4%	60.6%	62.5%	56.5%	50.8%	47.2%	45.3%	59.2%
	All 9 PMA Crab group	70.3%	69.8%	68.5%	67.1%	68.6%	66.3%	64.7%	64.0%	65.5%	61.1%	67.3%
	Total All Fisheries	68.1%	67.0%	66.2%	66.6%	68.3%	64.2%	66.1%	63.9%	65.9%	63.3%	66.3%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-26. Value of Harvest for PMA Crab Vessels from Washington by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Grand Total of Value of Harvest from All Alaskan Fisheries for Vessels Fishing PMA Crab Fisheries

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
S-T CMSA	All fisheries other than PMA Crab	7.2%	8.1%	6.7%	7.8%	15.5%	10.2%	21.5%	11.6%	13.7%	21.3%	11.4%
	Bristol Bay Red King Crab	9.8%	7.5%	10.4%	0.0%	0.0%	10.5%	8.4%	9.7%	12.7%	13.0%	7.9%
	Bering Sea Opilio Crab	32.2%	31.5%	32.9%	39.0%	38.2%	29.6%	25.8%	34.8%	32.7%	20.0%	32.5%
	Bering Sea Tanner Crab	10.7%	11.0%	7.1%	6.6%	2.6%	1.3%	0.0%	0.0%	0.0%	0.0%	4.8%
	BBR/BSO/BST Crab group	*	49.9%	*	45.7%	40.9%	41.5%	34.2%	44.6%	45.4%	33.0%	45.2%
	Other 6 PMA Crab group	*	5.2%	*	9.3%	7.2%	8.9%	6.8%	3.7%	2.3%	5.5%	5.8%
	All 9 PMA Crab group	58.2%	55.1%	55.6%	55.0%	48.1%	50.4%	41.0%	48.3%	47.7%	38.5%	51.0%
	Total All Fisheries	65.4%	63.2%	62.4%	62.8%	63.6%	60.6%	62.5%	60.0%	61.3%	59.8%	62.4%
Other Washington	All fisheries other than PMA Crab	0.1%	0.5%	0.3%	0.2%	0.8%	0.1%	0.3%	0.2%	0.5%	0.8%	0.4%
	Bristol Bay Red King Crab	0.6%	0.3%	0.7%	0.0%	0.0%	0.9%	0.8%	0.8%	1.0%	0.9%	0.6%
	Bering Sea Opilio Crab	1.4%	1.7%	1.9%	2.8%	3.3%	2.1%	2.2%	2.8%	3.1%	1.8%	2.3%
	Bering Sea Tanner Crab	0.5%	0.7%	0.5%	0.4%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%
	BBR/BSO/BST Crab group	2.5%	2.7%	3.1%	3.3%	3.4%	3.1%	3.0%	3.6%	4.1%	2.7%	3.2%
	Other 6 PMA Crab group	0.1%	0.6%	0.4%	0.3%	0.5%	0.4%	0.3%	0.2%	0.0%	0.0%	0.3%
	All 9 PMA Crab group	2.6%	3.3%	3.5%	3.6%	4.0%	3.5%	3.3%	3.8%	4.1%	2.7%	3.5%
	Total All Fisheries	2.7%	3.8%	3.9%	3.8%	4.7%	3.5%	3.6%	4.0%	4.6%	3.5%	3.8%
Total WA	All fisheries other than PMA Crab	7.3%	8.6%	7.0%	8.0%	16.3%	10.3%	21.8%	11.8%	14.1%	22.1%	11.8%
	Bristol Bay Red King Crab	10.4%	7.8%	11.1%	0.0%	0.0%	11.4%	9.2%	10.5%	13.7%	14.0%	8.5%
	Bering Sea Opilio Crab	33.6%	33.2%	34.8%	41.9%	41.5%	31.8%	28.0%	37.7%	35.8%	21.7%	34.8%
	Bering Sea Tanner Crab	11.2%	11.6%	7.7%	7.1%	2.8%	1.4%	0.0%	0.0%	0.0%	0.0%	5.0%
	BBR/BSO/BST Crab group	55.3%	52.6%	53.6%	48.9%	44.3%	44.6%	37.2%	48.2%	49.5%	35.7%	48.3%
	Other 6 PMA Crab group	5.6%	5.8%	5.6%	9.6%	7.8%	9.3%	7.1%	3.9%	2.3%	5.5%	6.1%
	All 9 PMA Crab group	60.8%	58.4%	59.2%	58.5%	52.1%	53.9%	44.3%	52.1%	51.8%	41.2%	54.5%
	Total All Fisheries	68.1%	67.0%	66.2%	66.6%	68.3%	64.2%	66.1%	63.9%	65.9%	63.3%	66.3%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 3: Harvest Value Data, Subset 4 - State of Oregon Tables

The final subset in this series consists of State of Oregon tables that aggregate harvest value at the level of the named community of residence of the owner of the vessel, for those communities for which harvest information is potentially nonconfidential, by fishery category and year. Named communities for Oregon tables are Newport and "Other Oregon."

- Table A3-27 provides the value of the harvest for fisheries categories for each year for vessels owned by the residents of named communities as well as total for the state as a whole, and overall totals for fisheries as a whole.

- Table A3-28 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of all fisheries for those vessels from that named community (as a measure of community fleet dependence on PMA crab).

- Table A3-29 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of each individual fishery category for the total state fishery category.

- Table A3-30 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of each individual fishery category for the total fishery category (all states combined).

- Table A3-31 displays the value of the harvest for fisheries categories for each year (and the 10-year period as a whole) for vessels owned by residents of named communities, as a percent of the harvest value of all fisheries categories combined for all states.

Table A3-27. Value of harvest (in Dollars) for PMA Crab Vessels from Oregon by Fishery Category, Community of Vessel Owner, and Year (1991-2000)

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Newport	All fisheries other than PMA Crab	4,543,029	6,766,065	3,016,248	2,719,683	*	*	*	3,550,036	6,319,484	5,187,321	$4,529,452
	Bristol Bay Red King Crab	2,104,190	870,937	2,848,856	0	0	1,397,784	1,112,337	2,211,830	2,705,132	1,409,051	$1,466,012
	Bering Sea Opilio Crab	4,324,527	4,148,148	7,269,651	6,387,786	6,737,215	2,956,327	4,601,864	5,645,076	7,009,415	2,431,502	$5,151,151
	Bering Sea Tanner Crab	1,318,812	1,637,545	1,667,064	2,102,747	534,141	144,722	0	0	0	0	$740,503
	BBR/BSO/BST Crab group	7,747,529	6,656,630	11,785,572	8,490,534	7,271,356	4,498,833	5,714,201	7,856,906	*	*	$7,357,666
	Other 6 PMA Crab group	*	*	3,501,615	8,860,387	*	*	*	1,984,701	*	*	$3,798,493
	All 9 PMA Crab group	*	*	15,287,187	17,350,921	*	*	*	9,841,607	12,993,953	9,062,150	$11,156,159
	Total All Fisheries	15,207,718	15,511,952	18,303,435	20,070,604	15,607,791	11,255,078	13,944,982	13,391,643	19,313,437	14,249,471	$15,685,611
Other Oregon	All fisheries other than PMA Crab	1,000,203	2,811,180	3,236,621	933,590	*	*	*	1,251,882	2,055,011	938,724	$1,581,269
	Bristol Bay Red King Crab	1,182,370	857,502	1,307,792	0	0	543,824	254,108	851,789	1,840,869	918,530	$775,679
	Bering Sea Opilio Crab	1,902,560	2,987,131	3,531,008	3,859,459	3,371,905	1,471,633	1,496,102	1,888,689	3,765,785	2,088,433	$2,636,270
	Bering Sea Tanner Crab	1,142,817	1,416,724	1,167,869	1,059,934	270,227	71,973	0	0	0	0	$512,954
	BBR/BSO/BST Crab group	4,227,747	5,261,357	6,006,669	4,919,393	3,642,132	2,087,431	1,750,210	2,740,478	5,606,654	3,006,963	$3,924,903
	Other 6 PMA Crab group	*	*	344,324	375,629	*	*	*	150,038	0	0	$205,249
	All 9 PMA Crab group	*	*	6,350,993	5,295,022	*	*	*	2,890,516	5,606,654	3,006,963	$4,130,153
	Total All Fisheries	5,646,653	8,160,643	9,587,614	6,228,611	5,014,137	3,503,281	3,223,526	4,142,397	7,661,665	3,945,687	$5,711,421
Total OR	All fisheries other than PMA Crab	5,543,233	9,577,244	6,252,869	3,653,273	5,263,391	4,749,124	6,765,619	4,801,917	8,374,494	6,126,044	$6,110,721
	Bristol Bay Red King Crab	3,286,560	1,728,439	4,156,648	0	0	1,941,609	1,366,445	3,063,619	4,546,002	2,327,582	$2,241,690
	Bering Sea Opilio Crab	6,227,087	7,135,280	10,800,660	10,247,246	10,109,120	4,427,961	6,097,966	7,533,765	10,775,200	4,519,935	$7,787,422
	Bering Sea Tanner Crab	2,461,629	3,054,269	2,834,933	3,162,681	804,368	216,695	0	0	0	0	$1,253,457
	BBR/BSO/BST Crab group	11,975,276	11,917,988	17,792,241	13,409,927	10,913,488	6,586,264	7,464,411	10,597,384	15,321,202	6,847,516	$11,282,569
	Other 6 PMA Crab group	3,335,862	2,177,364	3,845,939	9,236,016	4,445,049	3,422,971	2,938,478	2,134,739	3,279,406	5,221,597	$4,003,742
	All 9 PMA Crab group	15,311,138	14,095,352	21,638,179	22,645,942	15,358,537	10,009,235	10,402,889	12,732,123	18,600,607	12,069,113	$15,286,312
	Total All Fisheries	20,854,370	23,672,596	27,891,049	26,299,215	20,621,929	14,758,359	17,168,508	17,534,040	26,975,102	18,195,158	$21,397,033
Total AK/WA/OR	All fisheries other than PMA Crab	47,203,695	55,972,711	47,310,292	41,059,260	68,827,053	34,781,642	66,737,109	42,719,089	68,294,562	52,948,103	$52,585,352
	Bristol Bay Red King Crab	54,799,012	41,545,440	56,558,156	0	0	32,831,761	28,081,306	36,543,041	66,897,815	35,383,194	$35,263,972
	Bering Sea Opilio Crab	163,334,723	158,587,181	171,364,707	193,297,865	168,523,283	86,241,067	90,270,843	132,752,685	175,109,092	54,454,901	$139,393,635
	Bering Sea Tanner Crab	55,755,452	58,867,958	41,499,591	34,884,126	11,704,150	4,505,473	0	0	0	0	$20,721,675
	BBR/BSO/BST Crab group	273,889,186	259,000,580	269,422,454	228,181,991	180,227,433	123,578,300	118,352,149	169,295,725	242,006,907	89,838,096	$195,379,282
	Other 6 PMA Crab group	29,925,986	28,558,710	32,268,526	52,013,908	36,687,321	27,588,128	26,693,356	17,836,260	15,818,551	19,874,449	$28,726,520
	All 9 PMA Crab group	303,815,173	287,559,290	301,690,980	280,195,899	216,914,754	151,166,428	145,045,505	187,131,986	257,825,458	109,712,545	$224,105,802
	Total All Fisheries	351,018,868	343,532,001	349,001,272	321,255,160	285,741,806	185,948,071	211,782,613	229,851,075	326,120,020	162,660,648	$276,691,153

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-28. Value of Harvest for PMA Crab Vessels from Oregon by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Total Community Harvest Value for Fisheries in Which PMA Crab Vessels Participate

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Newport	All fisheries other than PMA Crab	29.9%	43.6%	16.5%	13.6%	*	*	*	26.5%	32.7%	36.4%	28.9%
	Bristol Bay Red King Crab	13.8%	5.6%	15.6%	0.0%	0.0%	12.4%	8.0%	16.5%	14.0%	9.9%	9.3%
	Bering Sea Opilio Crab	28.4%	26.7%	39.7%	31.8%	43.2%	26.3%	33.0%	42.2%	36.3%	17.1%	32.8%
	Bering Sea Tanner Crab	8.7%	10.6%	9.1%	10.5%	3.4%	1.3%	0.0%	0.0%	0.0%	0.0%	4.7%
	BBR/BSO/BST Crab group	50.9%	42.9%	64.4%	42.3%	46.6%	40.0%	41.0%	58.7%	*	*	46.9%
	Other 6 PMA Crab group	*	*	19.1%	44.1%	*	*	*	14.8%	*	*	24.2%
	All 9 PMA Crab group	*	*	83.5%	86.4%	*	*	*	73.5%	67.3%	63.6%	71.1%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Other Oregon	All fisheries other than PMA Crab	17.7%	34.4%	33.8%	15.0%	*	*	*	30.2%	26.8%	23.8%	27.7%
	Bristol Bay Red King Crab	20.9%	10.5%	13.6%	0.0%	0.0%	15.5%	7.9%	20.6%	24.0%	23.3%	13.6%
	Bering Sea Opilio Crab	33.7%	36.6%	36.8%	62.0%	67.2%	42.0%	46.4%	45.6%	49.2%	52.9%	46.2%
	Bering Sea Tanner Crab	20.2%	17.4%	12.2%	17.0%	5.4%	2.1%	0.0%	0.0%	0.0%	0.0%	9.0%
	BBR/BSO/BST Crab group	74.9%	64.5%	62.7%	79.0%	72.6%	59.6%	54.3%	66.2%	73.2%	76.2%	68.7%
	Other 6 PMA Crab group	*	*	3.6%	6.0%	*	*	*	3.6%	0.0%	0.0%	3.6%
	All 9 PMA Crab group	*	*	66.2%	85.0%	*	*	*	69.8%	73.2%	76.2%	72.3%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total OR	All fisheries other than PMA Crab	26.6%	40.5%	22.4%	13.9%	25.5%	32.2%	39.4%	27.4%	31.0%	33.7%	28.6%
	Bristol Bay Red King Crab	15.8%	7.3%	14.9%	0.0%	0.0%	13.2%	8.0%	17.5%	16.9%	12.8%	10.5%
	Bering Sea Opilio Crab	29.9%	30.1%	38.7%	39.0%	49.0%	30.0%	35.5%	43.0%	39.9%	24.8%	36.4%
	Bering Sea Tanner Crab	11.8%	12.9%	10.2%	12.0%	3.9%	1.5%	0.0%	0.0%	0.0%	0.0%	5.9%
	BBR/BSO/BST Crab group	57.4%	50.3%	63.8%	51.0%	52.9%	44.6%	43.5%	60.4%	56.8%	37.6%	52.7%
	Other 6 PMA Crab group	16.0%	9.2%	13.8%	35.1%	21.6%	23.2%	17.1%	12.2%	12.2%	28.7%	18.7%
	All 9 PMA Crab group	73.4%	59.5%	77.6%	86.1%	74.5%	67.8%	60.6%	72.6%	69.0%	66.3%	71.4%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total AK/WA/OR	All fisheries other than PMA Crab	13.4%	16.3%	13.6%	12.8%	24.1%	18.7%	31.5%	18.6%	20.9%	32.6%	19.0%
	Bristol Bay Red King Crab	15.6%	12.1%	16.2%	0.0%	0.0%	17.7%	13.3%	15.9%	20.5%	21.8%	15.9%
	Bering Sea Opilio Crab	46.5%	46.2%	49.1%	60.2%	59.0%	46.4%	42.6%	57.8%	53.7%	33.5%	50.4%
	Bering Sea Tanner Crab	15.9%	17.1%	11.9%	10.9%	4.1%	2.4%	0.0%	0.0%	0.0%	0.0%	12.5%
	BBR/BSO/BST Crab group	78.0%	75.4%	77.2%	71.0%	63.1%	66.5%	55.9%	73.7%	74.2%	55.2%	70.6%
	Other 6 PMA Crab group	8.5%	8.3%	9.2%	16.2%	12.8%	14.8%	12.6%	7.8%	4.9%	12.2%	10.4%
	All 9 PMA Crab group	86.6%	83.7%	86.4%	87.2%	75.9%	81.3%	68.5%	81.4%	79.1%	67.4%	81.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-29. Value of Harvest for PMA Crab Vessels from Oregon by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Total Value of Alaskan Harvest by Oregon Vessels Fishing PMA Crab Fisheries

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Newport	All fisheries other than PMA Crab	82.0%	70.6%	48.2%	74.4%	*	*	*	73.9%	75.5%	84.7%	74.1%
	Bristol Bay Red King Crab	64.0%	50.4%	68.5%			72.0%	81.4%	72.2%	59.5%	60.5%	65.4%
	Bering Sea Opilio Crab	69.4%	58.1%	67.3%	62.3%	66.6%	66.8%	75.5%	74.9%	65.1%	53.8%	66.1%
	Bering Sea Tanner Crab	53.6%	53.6%	58.8%	66.5%	66.4%	66.8%					59.1%
	BBR/BSO/BST Crab group	64.7%	55.9%	66.2%	63.3%	66.6%	68.3%	76.6%	74.1%	*	*	65.2%
	Other 6 PMA Crab group	*	*	91.0%	95.9%	*	*	*	93.0%	*	*	94.9%
	All 9 PMA Crab group	*	*	70.6%	76.6%	*	*	*	77.3%	69.9%	75.1%	73.0%
	Total All Fisheries	72.9%	65.5%	65.6%	76.3%	75.7%	76.3%	81.2%	76.4%	71.6%	78.3%	73.3%
Other Oregon	All fisheries other than PMA Crab	18.0%	29.4%	51.8%	25.6%	*	*	*	26.1%	24.5%	15.3%	25.9%
	Bristol Bay Red King Crab	36.0%	49.6%	31.5%			28.0%	18.6%	27.8%	40.5%	39.5%	34.6%
	Bering Sea Opilio Crab	30.6%	41.9%	32.7%	37.7%	33.4%	33.2%	24.5%	25.1%	34.9%	46.2%	33.9%
	Bering Sea Tanner Crab	46.4%	46.4%	41.2%	33.5%	33.6%	33.2%					40.9%
	BBR/BSO/BST Crab group	35.3%	44.1%	33.8%	36.7%	33.4%	31.7%	23.4%	25.9%	36.6%	43.9%	34.8%
	Other 6 PMA Crab group	*	*	9.0%	4.1%	*	*	*	7.0%	0.0%	0.0%	5.1%
	All 9 PMA Crab group	*	*	29.4%	23.4%	*	*	*	22.7%	30.1%	24.9%	27.0%
	Total All Fisheries	27.1%	34.5%	34.4%	23.7%	24.3%	23.7%	18.8%	23.6%	28.4%	21.7%	26.7%
Total OR	All fisheries other than PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bristol Bay Red King Crab	100.0%	100.0%	100.0%			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Opilio Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Bering Sea Tanner Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					100.0%
	BBR/BSO/BST Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other 6 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All 9 PMA Crab group	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Total All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-30. Value of Harvest for PMA Crab Vessels from Oregon by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Individual Fishery Grand Total of Value (all States) of Harvest by all Vessels Fishing PMA Crab Fisheries

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Newport	All fisheries other than PMA Crab	9.6%	12.1%	6.4%	6.6%	*	*	*	8.3%	9.3%	9.8%	86.1%
	Bristol Bay Red King Crab	3.8%	2.1%	5.0%			4.3%	4.0%	6.1%	4.0%	4.0%	33.3%
	Bering Sea Opilio Crab	2.6%	2.6%	4.2%	3.3%	4.0%	3.4%	5.1%	4.3%	4.0%	4.5%	37.0%
	Bering Sea Tanner Crab	2.4%	2.8%	4.0%	6.0%	4.6%	3.2%					21.4%
	BBR/BSO/BST Crab group	2.8%	2.6%	4.4%	3.7%	4.0%	3.6%	4.8%	4.6%	*	*	37.7%
	Other 6 PMA Crab group	*	*	10.9%	17.0%	*	*	*	11.1%	*	*	132.2%
	All 9 PMA Crab group	*	*	5.1%	6.2%	*	*	*	5.3%	5.0%	8.3%	49.8%
	Total All Fisheries	4.3%	4.5%	5.2%	6.2%	5.5%	6.1%	6.6%	5.8%	5.9%	8.8%	56.7%
Other Oregon	All fisheries other than PMA Crab	2.1%	5.0%	6.8%	2.3%	*	*	*	2.9%	3.0%	1.8%	30.1%
	Bristol Bay Red King Crab	2.2%	2.1%	2.3%			1.7%	0.9%	2.3%	2.8%	2.6%	17.6%
	Bering Sea Opilio Crab	1.2%	1.9%	2.1%	2.0%	2.0%	1.7%	1.7%	1.4%	2.2%	3.8%	18.9%
	Bering Sea Tanner Crab	2.0%	2.4%	2.8%	3.0%	2.3%	1.6%					14.9%
	BBR/BSO/BST Crab group	1.5%	2.0%	2.2%	2.2%	2.0%	1.7%	1.5%	1.6%	2.3%	3.3%	20.1%
	Other 6 PMA Crab group	*	*	1.1%	0.7%	*	*	*	0.8%	0.0%	0.0%	7.1%
	All 9 PMA Crab group	*	*	2.1%	1.9%	*	*	*	1.5%	2.2%	2.7%	18.4%
	Total All Fisheries	1.6%	2.4%	2.7%	1.9%	1.8%	1.9%	1.5%	1.8%	2.3%	2.4%	20.6%
Total OR	All fisheries other than PMA Crab	11.7%	17.1%	13.2%	8.9%	7.6%	13.7%	10.1%	11.2%	12.3%	11.6%	116.2%
	Bristol Bay Red King Crab	6.0%	4.2%	7.3%			5.9%	4.9%	8.4%	6.8%	6.6%	50.9%
	Bering Sea Opilio Crab	3.8%	4.5%	6.3%	5.3%	6.0%	5.1%	6.8%	5.7%	6.2%	8.3%	55.9%
	Bering Sea Tanner Crab	4.4%	5.2%	6.8%	9.1%	6.9%	4.8%					36.3%
	BBR/BSO/BST Crab group	4.4%	4.6%	6.6%	5.9%	6.1%	5.3%	6.3%	6.3%	6.3%	7.6%	57.7%
	Other 6 PMA Crab group	11.1%	7.6%	11.9%	17.8%	12.1%	12.4%	11.0%	12.0%	20.7%	26.3%	139.4%
	All 9 PMA Crab group	5.0%	4.9%	7.2%	8.1%	7.1%	6.6%	7.2%	6.8%	7.2%	11.0%	68.2%
	Total All Fisheries	5.9%	6.9%	8.0%	8.2%	7.2%	7.9%	8.1%	7.6%	8.3%	11.2%	77.3%

Note: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-31. Value of Harvest for PMA Crab Vessels from Oregon by Fishery Category, Community of Vessel Owner, and Year (1991-2000) as Percentage of Grand Total of Value of Harvest from All Alaskan Fisheries for Vessels Fishing PMA Crab Fisheries

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Newport	All fisheries other than PMA Crab	1.3%	2.0%	0.9%	0.8%	*	*	*	1.5%	1.9%	3.2%	16.4%
	Bristol Bay Red King Crab	0.6%	0.3%	0.8%	0.0%	0.0%	0.8%	0.5%	1.0%	0.8%	0.9%	5.3%
	Bering Sea Opilio Crab	1.2%	1.2%	2.1%	2.0%	2.4%	1.6%	2.2%	2.5%	2.1%	1.5%	18.6%
	Bering Sea Tanner Crab	0.4%	0.5%	0.5%	0.7%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	2.7%
	BBR/BSO/BST Crab group	2.2%	1.9%	3.4%	2.6%	2.5%	2.4%	2.7%	3.4%	*	*	26.6%
	Other 6 PMA Crab group	*	*	1.0%	2.8%	*	*	*	0.9%	*	*	13.7%
	All 9 PMA Crab group	*	*	4.4%	5.4%	*	*	*	4.3%	4.0%	5.6%	40.3%
	Total All Fisheries	4.3%	4.5%	5.2%	6.2%	5.5%	6.1%	6.6%	5.8%	5.9%	8.8%	56.7%
Other Oregon	All fisheries other than PMA Crab	0.3%	0.8%	0.9%	0.3%	*	*	*	0.5%	0.6%	0.6%	5.7%
	Bristol Bay Red King Crab	0.3%	0.2%	0.4%	0.0%	0.0%	0.3%	0.1%	0.4%	0.6%	0.6%	2.8%
	Bering Sea Opilio Crab	0.5%	0.9%	1.0%	1.2%	1.2%	0.8%	0.7%	0.8%	1.2%	1.3%	9.5%
	Bering Sea Tanner Crab	0.3%	0.4%	0.3%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%
	BBR/BSO/BST Crab group	1.2%	1.5%	1.7%	1.5%	1.3%	1.1%	0.8%	1.2%	1.7%	1.8%	14.2%
	Other 6 PMA Crab group	*	*	0.1%	0.1%	*	*	*	0.1%	0.0%	0.0%	0.7%
	All 9 PMA Crab group	*	*	1.8%	1.6%	*	*	*	1.3%	1.7%	1.8%	14.9%
	Total All Fisheries	1.6%	2.4%	2.7%	1.9%	1.8%	1.9%	1.5%	1.8%	2.3%	2.4%	20.6%
Total OR	All fisheries other than PMA Crab	1.6%	2.8%	1.8%	1.1%	1.8%	2.6%	3.2%	2.1%	2.6%	3.8%	22.1%
	Bristol Bay Red King Crab	0.9%	0.5%	1.2%	0.0%	0.0%	1.0%	0.6%	1.3%	1.4%	1.4%	8.1%
	Bering Sea Opilio Crab	1.8%	2.1%	3.1%	3.2%	3.5%	2.4%	2.9%	3.3%	3.3%	2.8%	28.1%
	Bering Sea Tanner Crab	0.7%	0.9%	0.8%	1.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	4.5%
	BBR/BSO/BST Crab group	3.4%	3.5%	5.1%	4.2%	3.8%	3.5%	3.5%	4.6%	4.7%	4.2%	40.8%
	Other 6 PMA Crab group	1.0%	0.6%	1.1%	2.9%	1.6%	1.8%	1.4%	0.9%	1.0%	3.2%	14.5%
	All 9 PMA Crab group	4.4%	4.1%	6.2%	7.0%	5.4%	5.4%	4.9%	5.5%	5.7%	7.4%	55.2%
	Total All Fisheries	5.9%	6.9%	8.0%	8.2%	7.2%	7.9%	8.1%	7.6%	8.3%	11.2%	77.3%

Note: "Fisheries other than PMA crab" includes both Alaska EEZ (federal) and Alaska state waters fisheries.
PMA crab fishery and group harvest values include all landings (qualified and non-qualified).
Average annual community harvest values are computed using 1991-2000 (that is, including years various fisheries were closed).
Other States have been deleted due to confidentiality concerns.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 4: Community Fleet Dependency Data

The next set of tables presents information designed to measure the dependency on PMA crab fisheries of the total fleet of harvest vessels from each of the named communities. These tables contain information on all vessels owned by residents of the named communities, whether they fish for PMA crab or not. They present information by a different set of fisheries categories, to indicate which fisheries are more significant for each named community, for each year 1991-2000 as well as for that period of time overall. To reduce confidentiality problems and because the purpose of these tables is to determine the overall economic significance of large fisheries categories to communities, all PMA fisheries are combined while "other" fisheries are broken out in more detail.

- Table A3-32 enumerates the number of vessels in each fishery category owned by residents of each named place, by year. This table serves to identify confidentiality concerns on the following harvest tables.

- Table A3-33 presents the numerical value in dollars of the harvest in each fishery category of the vessels owned by residents of each named place for the vessels enumerated in the table above.

- Table A3-34 presents the value in dollars of the harvest in each fishery category of the vessels owned by residents of each named place, as a percent of the total value of all fisheries for all vessels owned for each respective named place.

- Table A3-35 presents the value in dollars of the harvest in each fishery category of the vessels owned by residents of each named place, as a percent of the total value of each respective individual fishery for the state to which the named community belongs.

- Table A3-36 presents the value in dollars of the harvest in each fishery category of the vessels owned by residents of each named place, as a percent of the total overall value of each respective individual fishery (total for all states).

- Table A3-37 presents the value in dollars of the harvest in each fishery category of the vessels owned by residents of each named place, as a percent of the total overall value of all combined fisheries (grand totals for all states).

Table A3-32. Vessels Participating in Alaskan Fisheries, by Vessel Owners, State, Community and Fishery (1991-2000)

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Number of Oregon Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000													
Oregon	Newport	PMA Crab Fisheries	11	11	12	10	10	9	12	11	12	13	11.1
		Non-PMA Crab Fisheries	4	5	2	1	3	0	1	1	1	1	1.9
		Pollock	13	15	13	13	18	15	17	20	20	18	16.2
		Pacific Cod	21	19	15	16	23	21	22	22	24	25	20.8
		Other Groundfish	14	16	12	14	22	17	19	20	24	23	18.1
		Other Fisheries	23	11	7	10	13	12	10	9	9	0	10.4
		Salmon	1	2	4	3	6	3	4	5	3	3	3.4
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	30	27	29	26	33	29	32	32	33	31	30.2
	Other Oregon	PMA Crab Fisheries	9	8	9	7	6	5	4	6	7	7	6.8
		Non-PMA Crab Fisheries	11	6	7	7	4	2	4	0	0	0	4.1
		Pollock	6	12	12	8	7	9	10	14	15	14	10.7
		Pacific Cod	33	43	22	13	21	16	20	25	30	33	25.6
		Other Groundfish	43	59	58	67	31	38	34	38	46	43	45.7
		Other Fisheries	135	117	114	101	74	90	76	64	59	14	84.4
		Salmon	224	229	226	209	224	215	212	222	211	222	219.4
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	285	274	273	254	266	253	250	257	256	261	262.9
Total Oregon		PMA Crab Fisheries	20	19	21	17	16	14	16	17	19	20	17.9
		Non-PMA Crab Fisheries	15	11	9	8	7	2	5	1	1	1	6
		Pollock	19	27	25	21	25	24	27	34	35	32	26.9
		Pacific Cod	54	62	37	29	44	37	42	47	54	58	46.4
		Other Groundfish	57	75	70	81	53	55	53	58	70	66	63.8
		Other Fisheries	158	128	121	111	87	102	86	73	68	14	94.8
		Salmon	225	231	230	212	230	218	216	227	214	225	222.8
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	315	301	302	280	299	282	282	289	289	292	293.1
Number of "Other States" Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000													
Total Other States		PMA Crab Fisheries	3	7	4	4	7	7	6	7	7	7	5.9
		Non-PMA Crab Fisheries	20	23	20	16	24	11	18	14	5	12	16.3
		Pollock	7	5	4	4	4	4	3	5	4	10	5
		Pacific Cod	24	26	13	10	18	16	16	21	17	32	19.3
		Other Groundfish	33	37	24	21	21	21	17	19	19	29	24.1
		Other Fisheries	180	154	151	111	113	110	161	103	104	84	127.1
		Salmon	1234	1142	1244	1143	1229	831	840	1001	966	920	1055
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	1394	1268	1363	1229	1324	905	966	1079	1054	1019	1160.1
Number of Washington Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000													
Washington	Other Washington	PMA Crab Fisheries	16	14	18	16	16	12	14	14	15	13	14.8
		Non-PMA Crab Fisheries	46	46	37	38	41	27	35	38	21	22	35.1
		Pollock	8	17	11	12	14	13	19	18	20	21	15.3
		Pacific Cod	56	61	46	34	46	32	55	62	62	66	52
		Other Groundfish	111	118	94	115	84	90	92	99	105	98	100.6
		Other Fisheries	426	394	328	345	344	380	345	211	217	133	312.3
		Salmon	822	823	807	779	828	806	816	812	772	749	801.4
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	1014	977	974	962	993	983	981	928	886	862	956
	S-T CMSA	PMA Crab Fisheries	171	175	186	165	163	142	159	159	165	147	163.2
		Non-PMA Crab Fisheries	21	35	41	37	43	40	27	25	16	25	31
		Pollock	43	60	45	55	67	72	77	78	88	113	69.8
		Pacific Cod	133	143	102	102	159	140	146	124	168	185	140.2
		Other Groundfish	155	168	154	178	144	154	153	149	168	171	159.4
		Other Fisheries	373	308	264	250	214	258	234	164	161	91	231.7
		Salmon	700	678	670	657	656	611	628	586	572	527	628.5
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	1035	994	981	962	934	900	912	851	843	787	919.9
Total Washington		PMA Crab Fisheries	187	189	204	181	179	154	173	173	180	160	178
		Non-PMA Crab Fisheries	67	81	78	75	84	67	62	63	37	47	66.1
		Pollock	51	77	56	67	81	85	96	96	108	134	85.1
		Pacific Cod	189	204	148	136	205	172	201	186	230	251	192.2
		Other Groundfish	266	286	248	293	228	244	245	248	273	269	260
		Other Fisheries	799	702	592	595	558	638	579	375	378	224	544
		Salmon	1522	1501	1477	1436	1484	1417	1444	1398	1344	1276	1429.9
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	2049	1971	1955	1924	1927	1883	1893	1779	1729	1649	1875.9

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Number of Alaska Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000													
Alaska	Anchorage	PMA Crab Fisheries	7	5	7	7	8	8	7	6	6	6	6.7
		Non-PMA Crab Fisheries	6	9	11	6	4	3	1	1	0	0	4.1
		Pollock	2	3	3	1	1	1	1	0	3	5	2
		Pacific Cod	31	39	23	18	42	19	25	18	35	34	28.4
		Other Groundfish	46	50	45	48	43	39	34	29	34	37	40.5
		Other Fisheries	280	241	169	162	125	136	96	58	69	28	136.4
		Salmon	332	308	314	273	281	259	254	234	255	261	277.1
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	499	446	429	370	353	342	307	268	297	300	361.1
	Homer	PMA Crab Fisheries	11	12	12	10	9	9	9	8	8	8	9.6
		Non-PMA Crab Fisheries	56	77	84	74	5	3	1	2	2	1	30.5
		Pollock	0	9	4	3	1	8	18	11	16	23	9.3
		Pacific Cod	112	119	75	45	129	80	109	89	91	95	94.4
		Other Groundfish	100	129	115	150	106	104	102	82	85	83	105.6
		Other Fisheries	350	296	263	269	197	197	194	139	146	29	208
		Salmon	281	273	268	248	289	266	270	265	264	251	267.5
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	435	392	374	352	368	348	348	314	317	293	354.1
	King Cove/ Sand Point	PMA Crab Fisheries	6	6	11	12	26	17	12	12	6	8	11.6
		Non-PMA Crab Fisheries	1	1	1	2	0	3	0	0	0	0	0.8
		Pollock	4	11	7	10	11	13	24	23	18	25	14.6
		Pacific Cod	55	67	46	60	66	54	80	69	62	64	62.3
		Other Groundfish	14	37	19	17	13	36	36	23	22	22	23.9
		Other Fisheries	134	126	107	124	56	65	68	52	51	12	79.5
		Salmon	145	141	144	152	156	140	127	130	121	129	138.5
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	180	171	163	179	174	160	157	150	138	142	161.4
	Kodiak	PMA Crab Fisheries	64	65	63	53	39	37	39	42	40	39	48.1
		Non-PMA Crab Fisheries	116	126	112	106	25	22	18	10	12	11	55.8
		Pollock	44	57	37	43	45	47	72	65	59	61	53
		Pacific Cod	154	159	121	101	161	128	186	181	201	227	161.9
		Other Groundfish	123	168	104	156	120	121	154	136	130	136	134.8
		Other Fisheries	418	395	346	371	229	250	239	174	180	37	263.9
		Salmon	259	236	245	208	223	195	200	176	178	175	209.5
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	531	509	476	462	395	375	390	343	358	334	417.3
	Other Alaska	PMA Crab Fisheries	22	20	19	18	17	18	23	21	17	14	18.9
		Non-PMA Crab Fisheries	431	392	406	389	389	375	386	360	338	341	380.7
		Pollock	19	28	19	6	20	22	45	40	30	27	25.6
		Pacific Cod	571	682	497	397	449	389	443	374	434	424	466
		Other Groundfish	996	1068	967	991	776	784	782	681	704	687	843.6
		Other Fisheries	3841	3670	3155	3202	2836	2973	2779	2119	2182	1042	2779.9
		Salmon	3765	3663	3514	3466	3389	3111	3113	2936	2995	2955	3290.7
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	5688	5504	5159	5187	4934	4843	4716	4155	4252	3726	4816.4
Total Alaska		PMA Crab Fisheries	110	108	112	100	99	89	90	89	77	75	94.9
		Non-PMA Crab Fisheries	610	605	614	577	423	406	406	373	352	353	471.9
		Pollock	69	108	70	63	78	91	160	139	126	141	104.5
		Pacific Cod	923	1066	762	621	847	670	843	731	823	844	813
		Other Groundfish	1279	1452	1250	1362	1058	1084	1108	951	975	965	1148.4
		Other Fisheries	5023	4728	4040	4128	3443	3621	3376	2542	2628	1148	3467.7
		Salmon	4782	4621	4485	4347	4338	3971	3964	3741	3813	3771	4183.3
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	7333	7022	6601	6550	6224	6068	5918	5230	5362	4795	6110.3
GRAND TOTALS		PMA Crab Fisheries	320	323	341	302	301	264	285	286	283	262	296.7
		Non-PMA Crab Fisheries	712	720	721	676	538	486	491	451	395	413	560.3
		Pollock	146	217	155	155	188	204	286	274	273	317	221.5
		Pacific Cod	1190	1358	960	796	1114	895	1102	985	1124	1185	1070.9
		Other Groundfish	1635	1850	1592	1757	1360	1404	1423	1276	1337	1329	1496.3
		Other Fisheries	6160	5712	4904	4945	4201	4471	4202	3093	3178	1470	4233.6
		Salmon	7763	7495	7436	7138	7281	6437	6464	6367	6337	6192	6891
		"Non-Vessel" Fisheries	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		TOTAL HARVEST VESSELS	11091	10562	10221	9983	9774	9138	9059	8377	8434	7755	9439.4

Notes: Shaded cells are suppressed in later harvest tables as confidential
"Non-Vessel" Fisheries are fish ticket harvests not associated with a licensed vessel
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-33. Total Value of Fish Harvested by Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery (1991-2000)

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
Total Value of Fish Harvested by Oregon Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000													
Oregon	Newport	PMA Crab Fisheries	$10,664,688	$8,745,888	$15,287,187	$17,350,921	$11,465,168	$7,722,521	$8,427,505	$9,841,607	$12,993,953	$9,062,150	$111,561,588
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	$6,371,543	$10,768,553	$5,614,111	$6,649,169	$7,458,689	$5,214,357	$6,294,222	$4,717,098	$7,893,090	$6,476,214	$67,457,046
		Pacific Cod	$3,453,318	$3,643,783	$3,432,688	$2,564,323	$5,575,498	$4,816,989	$6,721,307	$5,677,832	$7,811,032	$6,320,620	$50,017,390
		Other Groundfish	$527,879	$135,332	$104,963	$258,782	$864,648	$779,773	$828,855	$604,710	$600,877	$606,925	$5,312,744
		Other Fisheries	$1,124,448	$273,463	$247,572	$603,270	$1,462,857	$1,326,439	$1,984,115	$1,033,473	$2,120,293	$0	$10,175,928
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries		$8,564				$101,442					$110,006
		TOTAL HARVEST VALUE	$22,426,028	$23,928,692	$24,866,823	$27,426,464	$27,065,657	$19,961,521	$24,373,981	$22,018,038	$31,419,245	$22,465,909	$244,634,702
	Other Oregon	PMA Crab Fisheries	$4,646,450	$5,349,464	$6,350,993	$5,295,022	$3,893,369	$2,286,714	$1,975,384	$2,890,516	$5,606,654	$3,006,963	$41,301,528
		Non-PMA Crab Fisheries	$382,170	$389,382	$342,337	$346,760	*	*	$52,374	$0	$0	$0	$1,566,017
		Pollock	$1,604,876	$4,311,033	$2,781,630	$3,293,361	$2,219,223	$3,254,665	$3,447,513	$3,825,428	$3,860,029	$3,824,095	$32,421,852
		Pacific Cod	$1,531,980	$2,804,243	$2,286,031	$1,130,820	$1,598,553	$1,853,675	$2,334,993	$2,512,063	$4,540,577	$3,714,289	$24,307,224
		Other Groundfish	$1,784,869	$2,652,866	$2,747,486	$2,436,264	$2,943,166	$3,049,399	$3,516,130	$2,359,425	$2,100,145	$3,413,157	$27,002,906
		Other Fisheries	$4,332,290	$2,267,049	$2,455,865	$3,061,350	$2,718,022	$3,169,613	$4,002,307	$2,966,303	$5,277,861	$223,541	$30,474,202
		Salmon	$8,494,502	$21,432,286	$12,667,735	$13,869,716	*	*	$6,879,064	$6,132,791	$10,112,383	$6,679,523	$109,214,121
		"Non-Vessel" Fisheries	$643,962	$1,664,651	$1,286,219	$1,702,309	$1,549,452	$5,354,256	$1,421,976	$1,126,042	$1,451,004	$935,166	$17,135,038
		TOTAL HARVEST VALUE	$23,421,099	$40,870,974	$30,918,295	$31,135,602	$29,011,169	$27,846,554	$23,629,740	$21,812,567	$32,948,653	$21,796,734	$283,422,887
Total Oregon		PMA Crab Fisheries	$15,311,138	$14,095,352	$21,638,179	$22,645,942	$15,358,537	$10,009,235	$10,402,889	$12,732,123	$18,600,607	$12,069,113	$152,863,115
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	$7,976,418	$15,079,587	$8,395,740	$9,942,530	$9,677,912	$8,469,022	$9,741,735	$8,542,526	$11,753,118	$10,300,309	$99,878,898
		Pacific Cod	$4,985,298	$6,448,027	$5,718,719	$3,695,142	$7,174,052	$6,670,664	$9,056,300	$8,189,894	$12,351,609	$10,034,910	$74,324,614
		Other Groundfish	$2,312,748	$2,788,198	$2,852,448	$2,695,046	$3,807,814	$3,829,172	$4,344,985	$2,964,135	$2,701,022	$4,020,082	$32,315,650
		Other Fisheries	$5,456,737	$2,540,512	$2,703,437	$3,664,621	$4,180,879	$4,496,052	$5,986,421	$3,999,777	$7,398,154	$223,541	$40,650,130
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries	$643,962	$1,673,215	$1,286,219	$1,702,309	$1,549,452	$5,455,698	$1,421,976	$1,126,042	$1,451,004	$935,166	$17,245,045
		TOTAL HARVEST VALUE	$45,866,780	$64,811,935	$56,071,620	$59,279,272	$56,208,073	$47,951,478	$48,042,103	$43,830,605	$64,572,181	$44,386,662	$528,022,238
Total Value of Fish Harvested by "Other States" Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000													
Total Other States		PMA Crab Fisheries	$1,880,757	$2,294,440	$2,847,239	$3,292,675	$4,194,927	$2,907,714	$2,775,005	$3,892,774	$6,177,865	$1,977,678	$32,241,074
		Non-PMA Crab Fisheries	$367,187	$502,736	$159,017	$208,269	$401,708	*	*	$195,768	$355,621	$216,927	$2,876,432
		Pollock	$4,336,960	$8,989,779	$5,372,048	$5,746,616	$5,412,763	*	*	$1,824,373	$3,793,374	$3,496,872	$44,533,115
		Pacific Cod	$1,901,752	$743,088	$133,111	$429,465	$1,104,828	$1,358,551	$522,433	$917,070	$581,764	$1,520,351	$9,212,412
		Other Groundfish	$2,435,702	$1,491,957	$849,771	$743,623	$2,443,661	$1,865,655	$1,632,435	$1,194,701	$1,837,095	$2,501,218	$16,995,819
		Other Fisheries	$3,947,204	$4,632,605	$4,798,589	$5,418,879	$3,326,646	$5,342,412	$4,222,602	$3,141,182	$5,290,824	$2,438,248	$42,559,191
		Salmon	$17,470,852	$35,212,010	$26,849,581	$32,906,954	$33,109,899	$17,060,229	$13,283,698	$14,582,610	$21,887,716	$16,573,448	$228,936,997
		"Non-Vessel" Fisheries	$3,241,979	$6,435,958	$4,301,703	$5,221,997	$4,672,381	$13,930,502	$3,771,566	$2,959,103	$4,684,305	$2,930,859	$52,150,353
		TOTAL HARVEST VALUE	$35,582,392	$60,302,573	$45,311,059	$53,968,477	$54,666,814	$45,232,654	$26,572,116	$28,707,581	$44,608,564	$31,655,600	$429,505,393

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
Total Value of Fish Harvested by Washington Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000													
Washington	Other Washington	PMA Crab Fisheries	$9,105,924	$11,459,424	$12,332,015	$11,549,027	$11,315,220	$6,454,214	$6,946,570	$8,741,042	$13,514,669	$4,388,950	$95,807,055
		Non-PMA Crab Fisheries	$3,625,115	$1,491,757	$1,239,110	$1,380,923	$2,367,522	$693,672	$1,493,853	$736,388	$978,760	$376,317	$14,383,419
		Pollock	$8,521,570	$16,847,389	$6,328,332	$11,089,305	$12,935,578	$9,382,670	$10,638,932	$8,179,075	$11,323,167	$11,410,428	$106,656,447
		Pacific Cod	$4,667,933	$3,047,927	$2,079,487	$1,734,407	$2,674,388	$2,624,222	$3,163,471	$1,713,842	$3,888,196	$4,908,491	$30,502,363
		Other Groundfish	$5,971,925	$4,850,575	$2,920,421	$6,238,507	$9,645,416	$8,891,370	$9,163,135	$5,705,446	$6,757,956	$8,690,412	$68,835,163
		Other Fisheries	$11,324,436	$7,186,081	$6,465,435	$8,203,299	$11,323,919	$13,554,630	$11,084,361	$6,910,448	$12,448,134	$3,062,155	$91,562,896
		Salmon	$45,511,766	$79,495,060	$59,863,417	$68,559,328	$73,204,938	$39,518,302	$37,433,197	$38,629,260	$49,899,557	$33,458,563	$525,573,389
		"Non-Vessel" Fisheries	$2,507,864	$4,370,703	$3,391,603	$3,671,690	$3,524,712	$16,366,842	$2,657,942	$2,390,710	$3,055,649	$2,094,524	$44,032,238
		TOTAL HARVEST VALUE	$91,236,533	$128,748,915	$94,619,821	$112,426,486	$126,991,693	$97,485,923	$82,581,461	$73,006,211	$101,866,088	$68,389,840	$977,352,969
	S-T CMSA	PMA Crab Fisheries	$204,437,204	$189,184,724	$194,207,588	$176,537,411	$137,438,935	$93,718,861	$86,936,433	$111,049,090	$155,426,540	$62,658,789	$1,411,595,575
		Non-PMA Crab Fisheries	$972,006	$2,580,111	$4,413,597	$7,829,025	$9,482,461	$3,981,663	$2,129,304	$682,614	$1,164,192	$1,049,049	$34,284,022
		Pollock	$32,376,784	$67,156,118	$40,110,349	$45,191,272	$54,250,972	$45,939,740	$65,915,643	$46,862,112	$74,017,902	$68,129,415	$539,950,308
		Pacific Cod	$15,819,140	$8,832,216	$6,964,187	$8,207,420	$11,118,867	$14,681,162	$17,665,887	$8,941,232	$15,832,601	$26,129,255	$134,191,967
		Other Groundfish	$15,206,052	$12,921,462	$9,255,186	$12,981,188	$22,881,781	$18,794,852	$20,392,026	$12,108,269	$12,173,377	$15,960,681	$152,674,873
		Other Fisheries	$12,782,986	$9,113,827	$8,497,528	$10,985,371	$12,165,352	$16,063,138	$15,521,797	$10,427,046	$19,065,936	$2,196,645	$116,819,628
		Salmon	$41,502,702	$73,356,434	$57,556,592	$65,079,801	$64,785,156	$36,266,110	$34,218,581	$33,268,131	$44,305,746	$26,021,106	$476,360,358
		"Non-Vessel" Fisheries	$1,426,464	$3,230,343	$1,751,123	$1,765,301	$1,986,570	$11,243,955	$1,460,834	$1,250,776	$1,629,044	$1,222,829	$26,967,238
		TOTAL HARVEST VALUE	$324,523,338	$366,375,235	$322,756,149	$328,576,789	$314,110,094	$240,689,482	$244,240,505	$224,589,271	$323,615,339	$203,367,769	$2,892,843,970
Total Washington		PMA Crab Fisheries	$213,543,128	$200,644,147	$206,539,603	$188,086,438	$148,754,155	$100,173,074	$93,883,003	$119,790,133	$168,941,209	$67,047,739	$1,507,402,630
		Non-PMA Crab Fisheries	$4,597,121	$4,071,868	$5,652,707	$9,209,949	$11,849,983	$4,675,335	$3,623,157	$1,419,002	$2,142,953	$1,425,366	$48,667,442
		Pollock	$40,898,353	$84,003,507	$46,438,682	$56,280,577	$67,186,549	$55,322,411	$76,554,575	$55,041,187	$85,341,069	$79,539,843	$646,606,754
		Pacific Cod	$20,487,072	$11,880,143	$9,043,674	$9,941,826	$13,793,256	$17,305,385	$20,829,358	$10,655,074	$19,720,796	$31,037,746	$164,694,330
		Other Groundfish	$21,177,977	$17,772,036	$12,175,607	$19,219,695	$32,527,197	$27,686,222	$29,555,161	$17,813,714	$18,931,333	$24,651,093	$221,510,036
		Other Fisheries	$24,107,422	$16,299,908	$14,962,962	$19,188,670	$23,489,271	$29,617,768	$26,606,158	$17,337,494	$31,514,070	$5,258,800	$208,382,524
		Salmon	$87,014,468	$152,851,494	$117,420,009	$133,639,129	$137,990,093	$75,784,412	$71,651,778	$71,897,392	$94,205,303	$59,479,668	$1,001,933,747
		"Non-Vessel" Fisheries	$3,934,328	$7,601,046	$5,142,726	$5,436,991	$5,511,282	$27,610,797	$4,118,776	$3,641,486	$4,684,693	$3,317,353	$70,999,476
		TOTAL HARVEST VALUE	$415,759,871	$495,124,150	$417,375,970	$441,003,274	$441,101,787	$338,175,405	$326,821,966	$297,595,482	$425,481,427	$271,757,609	$3,870,196,939
Total Value of Fish Harvested by Alaska Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000													
Alaska	Anchorage	PMA Crab Fisheries	$4,745,712	$1,902,394	$3,998,080	$3,629,142	$6,379,123	$4,719,571	$3,881,875	$4,640,282	$6,219,747	$3,020,038	$43,135,965
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	$295,586	$633,279	$247,279	$154,494	$408,811	$181,443	$62,118	$274,994	$399,610	$748,143	$3,405,755
		Other Groundfish	$756,616	$1,053,269	$974,756	$837,258	$993,426	$840,471	$1,145,963	$441,757	$674,861	$971,126	$8,689,502
		Other Fisheries	$4,142,568	$3,126,493	$1,967,714	$2,743,325	$3,137,779	$4,159,182	$2,983,002	$1,611,522	$2,435,825	$621,120	$26,928,527
		Salmon	$14,210,240	$25,715,263	$16,732,481	$17,890,983	$18,830,963	$11,018,715	$8,734,647	$8,188,678	$15,289,641	$10,661,843	$147,273,453
		"Non-Vessel" Fisheries	$4,555,803	$10,569,463	$6,491,769	$7,805,793	$6,051,531	$9,662,720	$5,607,614	$3,208,351	$5,781,694	$3,553,106	$63,287,845
		TOTAL HARVEST VALUE	$28,783,946	$43,223,415	$30,562,939	$33,219,970	$35,823,175	$30,671,796	$22,453,695	$18,407,956	$30,801,377	$20,041,068	$293,523,645
	Homer	PMA Crab Fisheries	$6,817,439	$6,160,095	$6,688,159	$7,005,291	$5,431,163	$4,711,163	$3,680,188	$5,886,708	$7,671,187	$4,054,469	$58,105,861
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	$1,774,861	$1,293,339	$783,547	$559,926	$1,378,087	$1,730,378	$2,333,415	$1,829,690	$2,660,986	$3,930,911	$18,275,139
		Other Groundfish	$1,603,190	$2,412,175	$3,095,280	$3,065,587	$2,658,723	$1,822,022	$1,893,447	$1,170,735	$1,279,652	$1,569,453	$20,570,264
		Other Fisheries	$10,187,206	$7,254,411	$7,407,968	$9,079,123	$9,194,520	$12,376,314	$8,833,394	$6,221,173	$10,648,933	$1,079,730	$82,282,772
		Salmon	$10,892,679	$26,896,870	$13,903,319	$15,019,127	$17,959,394	$12,063,976	$12,591,877	$10,529,530	$16,013,196	$11,368,386	$147,238,356
		"Non-Vessel" Fisheries	$1,049,235	$1,978,388	$1,094,718	$1,959,344	$892,254	$2,600,185	$1,079,857	$546,224	$912,908	$668,196	$12,781,309
		TOTAL HARVEST VALUE	$32,980,283	$46,592,474	$33,587,552	$37,170,440	$37,623,868	$35,486,734	$30,553,067	$26,295,516	$39,358,954	$22,786,473	$343,091,144
	King Cove/Sand Point	PMA Crab Fisheries	$4,825,135	$4,752,159	$4,825,608	$5,915,987	$5,551,698	$4,255,993	$4,227,481	$5,405,189	$4,841,238	$1,278,767	$45,879,256
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	$5,276,852	$4,889,393	$2,683,571	$3,035,047	$2,906,684	$4,524,065	$6,111,281	$5,256,636	$7,112,600	$8,026,777	$49,822,907

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
		Other Groundfish	$298,172	$320,208	$182,673	$155,496	$28,278	$1,184,095	$112,947	$36,224	$9,374	$25,241	$2,352,707
		Other Fisheries	$4,043,078	$2,234,451	$1,745,908	$3,005,275	$691,912	$1,339,938	$1,746,983	$995,460	$1,835,054	$169,427	$17,807,486
		Salmon	$12,060,938	$24,214,080	$14,771,907	$12,674,971	$17,953,597	$6,026,036	$7,527,693	$10,702,629	$14,004,041	$7,140,259	$127,076,151
		"Non-Vessel" Fisheries	$755,899	$1,263,305	$690,849	$852,827	$447,063	$405,789	$387,020	$530,632	$579,847	$452,567	$6,365,798
		TOTAL HARVEST VALUE	$27,262,043	$37,701,365	$25,332,818	$26,382,108	$28,461,788	$19,185,914	$22,842,406	$24,472,833	$30,530,770	$18,500,649	$260,672,693
	Kodiak	PMA Crab Fisheries	$49,611,918	$50,316,863	$48,772,774	$43,600,312	$26,264,720	$20,430,592	$21,196,861	$26,681,823	$38,546,739	$17,638,530	$343,061,132
		Non-PMA Crab Fisheries	$3,398,382	$5,077,492	$3,013,706	$2,886,616	$1,598,478	$838,888	$942,793	$401,245	$345,063	$294,155	$18,796,818
		Pollock	$4,290,599	$10,046,745	$6,906,646	$7,446,382	$5,877,308	$4,644,797	$6,600,312	$4,623,511	$5,249,893	$4,372,563	$60,058,756
		Pacific Cod	$10,393,356	$6,980,429	$6,691,169	$5,826,710	$11,050,134	$9,870,887	$11,774,064	$9,337,548	$16,596,725	$14,561,003	$103,082,026
		Other Groundfish	$5,485,469	$6,978,654	$6,503,670	$7,714,484	$5,916,876	$10,203,746	$9,716,886	$6,117,922	$5,190,333	$7,617,447	$71,445,486
		Other Fisheries	$20,358,313	$13,338,696	$15,377,247	$17,935,447	$15,256,936	$22,905,930	$24,498,751	$16,662,742	$26,358,284	$1,294,594	$173,986,939
		Salmon	$16,933,331	$21,632,197	$18,638,007	$12,945,141	$23,502,742	$12,246,905	$9,475,776	$15,149,598	$17,038,737	$10,590,038	$158,152,471
		"Non-Vessel" Fisheries	$4,347,007	$3,387,825	$3,297,866	$3,107,632	$4,867,033	$4,433,489	$2,855,083	$4,254,491	$4,780,346	$2,467,014	$37,797,786
		TOTAL HARVEST VALUE	$114,818,375	$117,758,900	$109,201,085	$101,462,723	$94,334,227	$85,575,234	$87,060,526	$83,228,879	$114,106,121	$58,835,344	$966,381,414
	Other Alaska	PMA Crab Fisheries	$8,960,702	$9,688,280	$9,228,578	$9,312,787	$9,175,357	$6,866,800	$7,773,208	$11,995,728	$13,004,730	$4,603,889	$90,610,057
		Non-PMA Crab Fisheries	$12,630,805	$8,933,647	$7,542,964	$11,290,238	$18,122,589	$10,850,188	$13,695,064	$9,499,711	$12,799,167	$9,316,050	$114,680,423
		Pollock	$1,140,504	$2,870,987	$1,490,275	$1,714,167	$54,700	$144,984	$144,879	$180,507	$76,422	$99,864	$7,917,289
		Pacific Cod	$5,221,310	$4,510,623	$2,973,460	$1,918,935	$3,296,270	$3,304,217	$4,149,849	$2,816,631	$6,118,089	$5,014,476	$39,323,860
		Other Groundfish	$27,964,107	$28,911,757	$27,155,537	$38,376,380	$38,276,367	$37,080,601	$38,322,195	$25,208,935	$25,292,811	$33,075,779	$319,664,468
		Other Fisheries	$58,854,637	$37,412,373	$38,744,360	$48,884,787	$51,126,859	$61,959,194	$53,420,362	$36,868,975	$53,748,823	$11,142,490	$452,162,860
		Salmon	$117,120,217	$190,107,678	$140,582,756	$163,805,512	$143,879,675	$110,619,475	$99,273,188	$91,471,521	$136,153,220	$93,713,586	$1,286,726,829
		"Non-Vessel" Fisheries	$32,197,698	$62,103,996	$35,637,405	$40,877,248	$35,015,103	$46,321,040	$26,457,179	$16,434,016	$27,294,318	$15,403,366	$337,741,37
		TOTAL HARVEST VALUE	$264,089,979	$344,539,341	$263,355,334	$316,180,054	$298,946,922	$277,146,500	$243,235,924	$194,476,023	$274,487,580	$172,369,500	$2,648,827,157
Total Alaska		PMA Crab Fisheries	$74,960,906	$72,819,791	$73,513,198	$69,463,519	$52,802,061	$40,984,119	$40,759,613	$54,609,730	$70,283,642	$30,595,693	$580,792,272
		Non-PMA Crab Fisheries	$16,770,085	$14,883,186	$11,277,681	$14,963,985	$19,852,337	$11,892,995	$14,758,260	$10,022,801	$13,207,289	$9,731,950	$137,360,567
		Pollock	$5,907,533	$12,946,075	$8,890,839	$10,015,594	$7,272,695	$6,422,614	$9,615,084	$6,461,536	$8,012,242	$6,461,059	$82,005,271
		Pacific Cod	$22,961,963	$18,307,062	$13,379,025	$11,495,112	$19,039,986	$19,610,991	$24,430,727	$19,515,499	$32,888,011	$32,281,310	$213,909,686
		Other Groundfish	$36,107,554	$39,676,063	$37,911,915	$50,149,205	$47,873,670	$51,130,934	$51,191,439	$32,975,572	$32,447,030	$43,259,045	$422,722,428
		Other Fisheries	$97,585,801	$63,366,424	$65,243,197	$81,647,957	$79,408,005	$102,740,558	$91,482,491	$62,359,871	$95,026,918	$14,307,360	$753,168,583
		Salmon	$171,217,406	$288,566,087	$204,628,470	$222,335,735	$222,126,372	$151,975,107	$137,603,181	$136,041,956	$198,498,836	$133,474,111	$1,866,467,260
		"Non-Vessel" Fisheries	$42,905,642	$79,302,977	$47,212,607	$54,602,844	$47,272,984	$63,423,223	$36,386,753	$24,973,714	$39,349,113	$22,544,249	$457,974,108
		TOTAL HARVEST VALUE	$468,416,890	$589,867,665	$462,056,933	$514,673,950	$495,648,110	$448,180,541	$406,227,547	$346,960,679	$489,713,080	$292,654,778	$4,514,400,176
GRAND TOTALS		PMA Crab Fisheries	$305,695,929	$289,853,730	$304,538,220	$283,488,574	$221,109,681	$154,074,142	$147,820,510	$191,024,760	$264,003,323	$111,690,223	$2,273,299,091
		Non-PMA Crab Fisheries	$22,400,715	$20,200,280	$17,718,244	$25,099,526	$32,256,770	$16,704,653	$18,836,548	$11,660,421	$15,880,802	$11,442,507	$192,200,466
		Pollock	$59,119,264	$121,018,948	$69,097,310	$81,985,317	$89,549,920	$72,876,813	$98,808,957	$71,869,623	$108,899,804	$99,798,083	$873,024,039
		Pacific Cod	$50,336,086	$37,378,319	$28,274,530	$25,561,545	$41,112,121	$44,945,590	$54,838,817	$39,277,537	$65,542,180	$74,874,317	$462,141,043
		Other Groundfish	$62,033,981	$61,728,254	$53,789,741	$72,807,568	$86,652,342	$84,511,983	$86,724,021	$54,948,122	$55,916,481	$74,431,439	$693,543,933
		Other Fisheries	$131,097,164	$86,839,449	$87,708,185	$109,920,126	$110,404,801	$142,196,790	$128,297,672	$86,838,324	$139,229,966	$22,227,950	$1,044,760,428
		Salmon	$284,216,881	$498,074,147	$361,746,098	$403,098,175	$407,533,049	$253,841,383	$229,535,699	$228,798,066	$324,908,521	$216,330,768	$3,208,082,789
		"Non-Vessel" Fisheries	$50,725,911	$95,013,196	$57,943,255	$66,964,141	$59,006,099	$110,420,220	$45,699,071	$32,700,345	$50,169,115	$29,727,627	$598,368,984
		TOTAL HARVEST VALUE	$965,625,932	$1,210,106,324	$980,815,582	$1,068,924,973	$1,047,624,784	$879,571,576	$810,561,295	$717,117,199	$1,024,550,191	$640,522,912	$9,345,420,772

Notes: "Non-Vessel" Fisheries are fish ticket harvests not associated with a licensed vessel
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-34. Total Value of Fish Harvested by Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery (1991-2000) as Percentage of Total Community Alaskan Fisheries Harvest

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total Value of Fish Harvested by Oregon Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 - As % of Total Community Harvest As Percent of Total Value of Community Harvest													
Oregon	Newport	PMA Crab Fisheries	47.6%	36.5%	61.5%	63.3%	42.4%	38.7%	34.6%	44.7%	41.4%	40.3%	45.6%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	28.4%	45.0%	22.6%	24.2%	27.6%	26.1%	25.8%	21.4%	25.1%	28.8%	27.6%
		Pacific Cod	15.4%	15.2%	13.8%	9.3%	20.6%	24.1%	27.6%	25.8%	24.9%	28.1%	20.4%
		Other Groundfish	2.4%	0.6%	0.4%	0.9%	3.2%	3.9%	3.4%	2.7%	1.9%	2.7%	2.2%
		Other Fisheries	5.0%	1.1%	1.0%	2.2%	5.4%	6.6%	8.1%	4.7%	6.7%	0.0%	4.2%
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other Oregon	PMA Crab Fisheries	19.8%	13.1%	20.5%	17.0%	13.4%	8.2%	8.4%	13.3%	17.0%	13.8%	14.6%
		Non-PMA Crab Fisheries	1.6%	1.0%	1.1%	1.1%	*	*	0.2%	0.0%	0.0%	0.0%	0.6%
		Pollock	6.9%	10.5%	9.0%	10.6%	7.6%	11.7%	14.6%	17.5%	11.7%	17.5%	11.4%
		Pacific Cod	6.5%	6.9%	7.4%	3.6%	5.5%	6.7%	9.9%	11.5%	13.8%	17.0%	8.6%
		Other Groundfish	7.6%	6.5%	8.9%	7.8%	10.1%	11.0%	14.9%	10.8%	6.4%	15.7%	9.5%
		Other Fisheries	18.5%	5.5%	7.9%	9.8%	9.4%	11.4%	16.9%	13.6%	16.0%	1.0%	10.8%
		Salmon	36.3%	52.4%	41.0%	44.5%	*	*	29.1%	28.1%	30.7%	30.6%	38.5%
		"Non-Vessel" Fisheries	2.7%	4.1%	4.2%	5.5%	5.3%	19.2%	6.0%	5.2%	4.4%	4.3%	6.0%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	*	100.0%	100.0%	100.0%	100.0%	100.0%
Total Oregon		PMA Crab Fisheries	33.4%	21.7%	38.6%	38.2%	27.3%	20.9%	21.7%	29.0%	28.8%	27.2%	29.0%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	17.4%	23.3%	15.0%	16.8%	17.2%	17.7%	20.3%	19.5%	18.2%	23.2%	18.9%
		Pacific Cod	10.9%	9.9%	10.2%	6.2%	12.8%	13.9%	18.9%	18.7%	19.1%	22.6%	14.1%
		Other Groundfish	5.0%	4.3%	5.1%	4.5%	6.8%	8.0%	9.0%	6.8%	4.2%	9.1%	6.1%
		Other Fisheries	11.9%	3.9%	4.8%	6.2%	7.4%	9.4%	12.5%	9.1%	11.5%	0.5%	7.7%
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries	1.4%	2.6%	2.3%	2.9%	2.8%	11.4%	3.0%	2.6%	2.2%	2.1%	3.3%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Value of Fish Harvested by "Other States" Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 - As % of Total Community Harvest As Percent of Total Value of Community Harvest													
Total Other States		PMA Crab Fisheries	5.3%	3.8%	6.3%	6.1%	7.7%	6.4%	10.4%	13.6%	13.8%	6.2%	7.5%
		Non-PMA Crab Fisheries	1.0%	0.8%	0.4%	0.4%	0.7%	*	*	0.7%	0.8%	0.7%	0.7%
		Pollock	12.2%	14.9%	11.9%	10.6%	9.9%	*	*	6.4%	8.5%	11.0%	10.4%
		Pacific Cod	5.3%	1.2%	0.3%	0.8%	2.0%	3.0%	2.0%	3.2%	1.3%	4.8%	2.1%
		Other Groundfish	6.8%	2.5%	1.9%	1.4%	4.5%	4.1%	6.1%	4.2%	4.1%	7.9%	4.0%
		Other Fisheries	11.1%	7.7%	10.6%	10.0%	6.1%	11.8%	15.9%	10.9%	11.9%	7.7%	9.9%
		Salmon	49.1%	58.4%	59.3%	61.0%	60.6%	37.7%	50.0%	50.8%	49.1%	52.4%	53.3%
		"Non-Vessel" Fisheries	9.1%	10.7%	9.5%	9.7%	8.5%	30.8%	14.2%	10.3%	10.5%	9.3%	12.1%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total Value of Fish Harvested by Washington Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 - As % of Total Community Harvest As Percent of Total Value of Community Harvest													
Washington	Other Washington	PMA Crab Fisheries	10.0%	8.9%	13.0%	10.3%	8.9%	6.6%	8.4%	12.0%	13.3%	6.4%	9.8%
		Non-PMA Crab Fisheries	4.0%	1.2%	1.3%	1.2%	1.9%	0.7%	1.8%	1.0%	1.0%	0.6%	1.5%
		Pollock	9.3%	13.1%	6.7%	9.9%	10.2%	9.6%	12.9%	11.2%	11.1%	16.7%	10.9%
		Pacific Cod	5.1%	2.4%	2.2%	1.5%	2.1%	2.7%	3.8%	2.3%	3.8%	7.2%	3.1%
		Other Groundfish	6.5%	3.8%	3.1%	5.5%	7.6%	9.1%	11.1%	7.8%	6.6%	12.7%	7.0%
		Other Fisheries	12.4%	5.6%	6.8%	7.3%	8.9%	13.9%	13.4%	9.5%	12.2%	4.5%	9.4%
		Salmon	49.9%	61.7%	63.3%	61.0%	57.6%	40.5%	45.3%	52.9%	49.0%	48.9%	53.8%
		"Non-Vessel" Fisheries	2.7%	3.4%	3.6%	3.3%	2.8%	16.8%	3.2%	3.3%	3.0%	3.1%	4.5%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	S-T CMSA	PMA Crab Fisheries	63.0%	51.6%	60.2%	53.7%	43.8%	38.9%	35.6%	49.4%	48.0%	30.8%	48.8%
		Non-PMA Crab Fisheries	0.3%	0.7%	1.4%	2.4%	3.0%	1.7%	0.9%	0.3%	0.4%	0.5%	1.2%
		Pollock	10.0%	18.3%	12.4%	13.8%	17.3%	19.1%	27.0%	20.9%	22.9%	33.5%	18.7%
		Pacific Cod	4.9%	2.4%	2.2%	2.5%	3.5%	6.1%	7.2%	4.0%	4.9%	12.8%	4.6%
		Other Groundfish	4.7%	3.5%	2.9%	4.0%	7.3%	7.8%	8.3%	5.4%	3.8%	7.8%	5.3%
		Other Fisheries	3.9%	2.5%	2.6%	3.3%	3.9%	6.7%	6.4%	4.6%	5.9%	1.1%	4.0%
		Salmon	12.8%	20.0%	17.8%	19.8%	20.6%	15.1%	14.0%	14.8%	13.7%	12.8%	16.5%
		"Non-Vessel" Fisheries	0.4%	0.9%	0.5%	0.5%	0.6%	4.7%	0.6%	0.6%	0.5%	0.6%	0.9%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Washington		PMA Crab Fisheries	51.4%	40.5%	49.5%	42.6%	33.7%	29.6%	28.7%	40.3%	39.7%	24.7%	38.9%
		Non-PMA Crab Fisheries	1.1%	0.8%	1.4%	2.1%	2.7%	1.4%	1.1%	0.5%	0.5%	0.5%	1.3%
		Pollock	9.8%	17.0%	11.1%	12.8%	15.2%	16.4%	23.4%	18.5%	20.1%	29.3%	16.7%
		Pacific Cod	4.9%	2.4%	2.2%	2.3%	3.1%	5.1%	6.4%	3.6%	4.6%	11.4%	4.3%
		Other Groundfish	5.1%	3.6%	2.9%	4.4%	7.4%	8.2%	9.0%	6.0%	4.4%	9.1%	5.7%
		Other Fisheries	5.8%	3.3%	3.6%	4.4%	5.3%	8.8%	8.1%	5.8%	7.4%	1.9%	5.4%
		Salmon	20.9%	30.9%	28.1%	30.3%	31.3%	22.4%	21.9%	24.2%	22.1%	21.9%	25.9%
		"Non-Vessel" Fisheries	0.9%	1.5%	1.2%	1.2%	1.2%	8.2%	1.3%	1.2%	1.1%	1.2%	1.8%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Value of Fish Harvested by Alaska Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 - As % of Total Community Harvest As Percent of Total Value of Community Harvest													
Alaska	Anchorage	PMA Crab Fisheries	16.5%	4.4%	13.1%	10.9%	17.8%	15.4%	17.3%	25.2%	20.2%	15.1%	14.7%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	1.0%	1.5%	0.8%	0.5%	1.1%	0.6%	0.3%	1.5%	1.3%	3.7%	1.2%
		Other Groundfish	2.6%	2.4%	3.2%	2.5%	2.8%	2.7%	5.1%	2.4%	2.2%	4.8%	3.0%
		Other Fisheries	14.4%	7.2%	6.4%	8.3%	8.8%	13.6%	13.3%	8.8%	7.9%	3.1%	9.2%
		Salmon	49.4%	59.5%	54.7%	53.9%	52.6%	35.9%	38.9%	44.5%	49.6%	53.2%	50.2%
		"Non-Vessel" Fisheries	15.8%	24.5%	21.2%	23.5%	16.9%	31.5%	25.0%	17.4%	18.8%	17.7%	21.6%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Homer	PMA Crab Fisheries	20.7%	13.2%	19.9%	18.8%	14.4%	13.3%	12.0%	22.4%	19.5%	17.8%	16.9%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	5.4%	2.8%	2.3%	1.5%	3.7%	4.9%	7.6%	7.0%	6.8%	17.3%	5.3%
		Other Groundfish	4.9%	5.2%	9.2%	8.2%	7.1%	5.1%	6.2%	4.5%	3.3%	6.9%	6.0%
		Other Fisheries	30.9%	15.6%	22.1%	24.4%	24.4%	34.9%	28.9%	23.7%	27.1%	4.7%	24.0%
		Salmon	33.0%	57.7%	41.4%	40.4%	47.7%	34.0%	41.2%	40.0%	40.7%	49.9%	42.9%
		"Non-Vessel" Fisheries	3.2%	4.2%	3.3%	5.3%	2.4%	7.3%	3.5%	2.1%	2.3%	2.9%	3.7%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
	King Cove/Sand Point	PMA Crab Fisheries	17.7%	12.6%	19.0%	22.4%	19.5%	22.2%	18.5%	22.1%	15.9%	6.9%	17.6%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	19.4%	13.0%	10.6%	11.5%	10.2%	23.6%	26.8%	21.5%	23.3%	43.4%	19.1%
		Other Groundfish	1.1%	0.8%	0.7%	0.6%	0.1%	6.2%	0.5%	0.1%	0.0%	0.1%	0.9%
		Other Fisheries	14.8%	5.9%	6.9%	11.4%	2.4%	7.0%	7.6%	4.1%	6.0%	0.9%	6.8%
		Salmon	44.2%	64.2%	58.3%	48.0%	63.1%	31.4%	33.0%	43.7%	45.9%	38.6%	48.7%
		"Non-Vessel" Fisheries	2.8%	3.4%	2.7%	3.2%	1.6%	2.1%	1.7%	2.2%	1.9%	2.4%	2.4%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Kodiak	PMA Crab Fisheries	43.2%	42.7%	44.7%	43.0%	27.8%	23.9%	24.3%	32.1%	33.8%	30.0%	35.5%
		Non-PMA Crab Fisheries	3.0%	4.3%	2.8%	2.8%	1.7%	1.0%	1.1%	0.5%	0.3%	0.5%	1.9%
		Pollock	3.7%	8.5%	6.3%	7.3%	6.2%	5.4%	7.6%	5.6%	4.6%	7.4%	6.2%
		Pacific Cod	9.1%	5.9%	6.1%	5.7%	11.7%	11.5%	13.5%	11.2%	14.5%	24.7%	10.7%
		Other Groundfish	4.8%	5.9%	6.0%	7.6%	6.3%	11.9%	11.2%	7.4%	4.5%	12.9%	7.4%
		Other Fisheries	17.7%	11.3%	14.1%	17.7%	16.2%	26.8%	28.1%	20.0%	23.1%	2.2%	18.0%
		Salmon	14.7%	18.4%	17.1%	12.8%	24.9%	14.3%	10.9%	18.2%	14.9%	18.0%	16.4%
		"Non-Vessel" Fisheries	3.8%	2.9%	3.0%	3.1%	5.2%	5.2%	3.3%	5.1%	4.2%	4.2%	3.9%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other Alaska	PMA Crab Fisheries	3.4%	2.8%	3.5%	2.9%	3.1%	2.5%	3.2%	6.2%	4.7%	2.7%	3.4%
		Non-PMA Crab Fisheries	4.8%	2.6%	2.9%	3.6%	6.1%	3.9%	5.6%	4.9%	4.7%	5.4%	4.3%
		Pollock	0.4%	0.8%	0.6%	0.5%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.3%
		Pacific Cod	2.0%	1.3%	1.1%	0.6%	1.1%	1.2%	1.7%	1.4%	2.2%	2.9%	1.5%
		Other Groundfish	10.6%	8.4%	10.3%	12.1%	12.8%	13.4%	15.8%	13.0%	9.2%	19.2%	12.1%
		Other Fisheries	22.3%	10.9%	14.7%	15.5%	17.1%	22.4%	22.0%	19.0%	19.6%	6.5%	17.1%
		Salmon	44.3%	55.2%	53.4%	51.8%	48.1%	39.9%	40.8%	47.0%	49.6%	54.4%	48.6%
		"Non-Vessel" Fisheries	12.2%	18.0%	13.5%	12.9%	11.7%	16.7%	10.9%	8.5%	9.9%	8.9%	12.8%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Alaska		PMA Crab Fisheries	16.0%	12.3%	15.9%	13.5%	10.7%	9.1%	10.0%	15.7%	14.4%	10.5%	12.9%
		Non-PMA Crab Fisheries	3.6%	2.5%	2.4%	2.9%	4.0%	2.7%	3.6%	2.9%	2.7%	3.3%	3.0%
		Pollock	1.3%	2.2%	1.9%	1.9%	1.5%	1.4%	2.4%	1.9%	1.6%	2.2%	1.8%
		Pacific Cod	4.9%	3.1%	2.9%	2.2%	3.8%	4.4%	6.0%	5.6%	6.7%	11.0%	4.7%
		Other Groundfish	7.7%	6.7%	8.2%	9.7%	9.7%	11.4%	12.6%	9.5%	6.6%	14.8%	9.4%
		Other Fisheries	20.8%	10.7%	14.1%	15.9%	16.0%	22.9%	22.5%	18.0%	19.4%	4.9%	16.7%
		Salmon	36.6%	48.9%	44.3%	43.2%	44.8%	33.9%	33.9%	39.2%	40.5%	45.6%	41.3%
		"Non-Vessel" Fisheries	9.2%	13.4%	10.2%	10.6%	9.5%	14.2%	9.0%	7.2%	8.0%	7.7%	10.1%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
GRAND TOTALS		PMA Crab Fisheries	31.7%	24.0%	31.0%	26.5%	21.1%	17.5%	18.2%	26.6%	25.8%	17.4%	24.3%
		Non-PMA Crab Fisheries	2.3%	1.7%	1.8%	2.3%	3.1%	1.9%	2.3%	1.6%	1.6%	1.8%	2.1%
		Pollock	6.1%	10.0%	7.0%	7.7%	8.5%	8.3%	12.2%	10.0%	10.6%	15.6%	9.3%
		Pacific Cod	5.2%	3.1%	2.9%	2.4%	3.9%	5.1%	6.8%	5.5%	6.4%	11.7%	4.9%
		Other Groundfish	6.4%	5.1%	5.5%	6.8%	8.3%	9.6%	10.7%	7.7%	5.5%	11.6%	7.4%
		Other Fisheries	13.6%	7.2%	8.9%	10.3%	10.5%	16.2%	15.8%	12.1%	13.6%	3.5%	11.2%
		Salmon	29.4%	41.2%	36.9%	37.7%	38.9%	28.9%	28.3%	31.9%	31.7%	33.8%	34.3%
		"Non-Vessel" Fisheries	5.3%	7.9%	5.9%	6.3%	5.6%	12.6%	5.6%	4.6%	4.9%	4.6%	6.4%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: "Non-Vessel" Fisheries are fish ticket harvests not associated with a licensed vessel
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-35. Total Value of Fish Harvested by Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery (1991-2000) as Percentage of Total State Value of all Alaskan Fisheries

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total Value of Fish Harvested by Oregon Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 - As % of State Total As Percent of Total State Value of all Fisheries													
Oregon	Newport	PMA Crab Fisheries	23.3%	13.5%	27.3%	29.3%	20.4%	16.1%	17.5%	22.5%	20.1%	20.4%	21.1%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	13.9%	16.6%	10.0%	11.2%	13.3%	10.9%	13.1%	10.8%	12.2%	14.6%	12.8%
		Pacific Cod	7.5%	5.6%	6.1%	4.3%	9.9%	10.0%	14.0%	13.0%	12.1%	14.2%	9.5%
		Other Groundfish	1.2%	0.2%	0.2%	0.4%	1.5%	1.6%	1.7%	1.4%	0.9%	1.4%	1.0%
		Other Fisheries	2.5%	0.4%	0.4%	1.0%	2.6%	2.8%	4.1%	2.4%	3.3%	0.0%	1.9%
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
		TOTAL HARVEST VALUE	48.9%	36.9%	44.3%	46.3%	48.2%	41.6%	50.7%	50.2%	48.7%	50.6%	46.3%
	Other Oregon	PMA Crab Fisheries	10.1%	8.3%	11.3%	8.9%	6.9%	4.8%	4.1%	6.6%	8.7%	6.8%	7.8%
		Non-PMA Crab Fisheries	0.8%	0.6%	0.6%	0.6%	*	*	0.1%	0.0%	0.0%	0.0%	0.3%
		Pollock	3.5%	6.7%	5.0%	5.6%	3.9%	6.8%	7.2%	8.7%	6.0%	8.6%	6.1%
		Pacific Cod	3.3%	4.3%	4.1%	1.9%	2.8%	3.9%	4.9%	5.7%	7.0%	8.4%	4.6%
		Other Groundfish	3.9%	4.1%	4.9%	4.1%	5.2%	6.4%	7.3%	5.4%	3.3%	7.7%	5.1%
		Other Fisheries	9.4%	3.5%	4.4%	5.2%	4.8%	6.6%	8.3%	6.8%	8.2%	0.5%	5.8%
		Salmon	18.5%	33.1%	22.6%	23.4%	*	*	14.3%	14.0%	15.7%	15.0%	20.7%
		"Non-Vessel" Fisheries	1.4%	2.6%	2.3%	2.9%	2.8%	11.2%	3.0%	2.6%	2.2%	2.1%	3.2%
		TOTAL HARVEST VALUE	51.1%	63.1%	55.1%	52.5%	51.6%	58.1%	49.2%	49.8%	51.0%	49.1%	53.7%
Total Oregon		PMA Crab Fisheries	33.4%	21.7%	38.6%	38.2%	27.3%	20.9%	21.7%	29.0%	28.8%	27.2%	29.0%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	17.4%	23.3%	15.0%	16.8%	17.2%	17.7%	20.3%	19.5%	18.2%	23.2%	18.9%
		Pacific Cod	10.9%	9.9%	10.2%	6.2%	12.8%	13.9%	18.9%	18.7%	19.1%	22.6%	14.1%
		Other Groundfish	5.0%	4.3%	5.1%	4.5%	6.8%	8.0%	9.0%	6.8%	4.2%	9.1%	6.1%
		Other Fisheries	11.9%	3.9%	4.8%	6.2%	7.4%	9.4%	12.5%	9.1%	11.5%	0.5%	7.7%
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries	1.4%	2.6%	2.3%	2.9%	2.8%	11.4%	3.0%	2.6%	2.2%	2.1%	3.3%
		TOTAL HARVEST VALUE	100.0%	100.0%	99.5%	98.8%	99.8%	99.7%	99.9%	100.0%	99.7%	99.7%	100.0%
Total Value of Fish Harvested by "Other States" Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 -- As % of State Total As Percent of Total State Value of all Fisheries													
Total Other States		PMA Crab Fisheries	5.3%	3.8%	6.3%	6.1%	7.7%	6.4%	10.4%	13.6%	13.8%	6.2%	7.5%
		Non-PMA Crab Fisheries	1.0%	0.8%	0.4%	0.4%	0.7%	*	*	0.7%	0.8%	0.7%	0.7%
		Pollock	12.2%	14.9%	11.9%	10.6%	9.9%	*	*	6.4%	8.5%	11.0%	10.4%
		Pacific Cod	5.3%	1.2%	0.3%	0.8%	2.0%	3.0%	2.0%	3.2%	1.3%	4.8%	2.1%
		Other Groundfish	6.8%	2.5%	1.9%	1.4%	4.5%	4.1%	6.1%	4.2%	4.1%	7.9%	4.0%
		Other Fisheries	11.1%	7.7%	10.6%	10.0%	6.1%	11.8%	15.9%	10.9%	11.9%	7.7%	9.9%
		Salmon	49.1%	58.4%	59.3%	61.0%	60.6%	37.7%	50.0%	50.8%	49.1%	52.4%	53.3%
		"Non-Vessel" Fisheries	9.1%	10.7%	9.5%	9.7%	8.5%	30.8%	14.2%	10.3%	10.5%	9.3%	12.1%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total Value of Fish Harvested by Washington Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 -- As % of State Total As Percent of Total State Value of all Fisheries													
Washington	Other Washington	PMA Crab Fisheries	2.2%	2.3%	3.0%	2.6%	2.6%	1.9%	2.1%	2.9%	3.2%	1.6%	2.5%
		Non-PMA Crab Fisheries	0.9%	0.3%	0.3%	0.3%	0.5%	0.2%	0.5%	0.2%	0.2%	0.1%	0.4%
		Pollock	2.0%	3.4%	1.5%	2.5%	2.9%	2.8%	3.3%	2.7%	2.7%	4.2%	2.8%
		Pacific Cod	1.1%	0.6%	0.5%	0.4%	0.6%	0.8%	1.0%	0.6%	0.9%	1.8%	0.8%
		Other Groundfish	1.4%	1.0%	0.7%	1.4%	2.2%	2.6%	2.8%	1.9%	1.6%	3.2%	1.8%
		Other Fisheries	2.7%	1.5%	1.5%	1.9%	2.6%	4.0%	3.4%	2.3%	2.9%	1.1%	2.4%
		Salmon	10.9%	16.1%	14.3%	15.5%	16.6%	11.7%	11.5%	13.0%	11.7%	12.3%	13.6%
		"Non-Vessel" Fisheries	0.6%	0.9%	0.8%	0.8%	0.8%	4.8%	0.8%	0.8%	0.7%	0.8%	1.1%
		TOTAL HARVEST VALUE	21.9%	26.0%	22.7%	25.5%	28.8%	28.8%	25.3%	24.5%	23.9%	25.2%	25.3%
	S-T CMSA	PMA Crab Fisheries	49.2%	38.2%	46.5%	40.0%	31.2%	27.7%	26.6%	37.3%	36.5%	23.1%	36.5%
		Non-PMA Crab Fisheries	0.2%	0.5%	1.1%	1.8%	2.1%	1.2%	0.7%	0.2%	0.3%	0.4%	0.9%
		Pollock	7.8%	13.6%	9.6%	10.2%	12.3%	13.6%	20.2%	15.7%	17.4%	25.1%	14.0%
		Pacific Cod	3.8%	1.8%	1.7%	1.9%	2.5%	4.3%	5.4%	3.0%	3.7%	9.6%	3.5%
		Other Groundfish	3.7%	2.6%	2.2%	2.9%	5.2%	5.6%	6.2%	4.1%	2.9%	5.9%	3.9%
		Other Fisheries	3.1%	1.8%	2.0%	2.5%	2.8%	4.7%	4.7%	3.5%	4.5%	0.8%	3.0%
		Salmon	10.0%	14.8%	13.8%	14.8%	14.7%	10.7%	10.5%	11.2%	10.4%	9.6%	12.3%
		"Non-Vessel" Fisheries	0.3%	0.7%	0.4%	0.4%	0.5%	3.3%	0.4%	0.4%	0.4%	0.4%	0.7%
		TOTAL HARVEST VALUE	78.1%	74.0%	77.3%	74.5%	71.2%	71.2%	74.7%	75.5%	76.1%	74.8%	74.7%
Total Washington		PMA Crab Fisheries	51.4%	40.5%	49.5%	42.6%	33.7%	29.6%	28.7%	40.3%	39.7%	24.7%	38.9%
		Non-PMA Crab Fisheries	1.1%	0.8%	1.4%	2.1%	2.7%	1.4%	1.1%	0.5%	0.5%	0.5%	1.3%
		Pollock	9.8%	17.0%	11.1%	12.8%	15.2%	16.4%	23.4%	18.5%	20.1%	29.3%	16.7%
		Pacific Cod	4.9%	2.4%	2.2%	2.3%	3.1%	5.1%	6.4%	3.6%	4.6%	11.4%	4.3%
		Other Groundfish	5.1%	3.6%	2.9%	4.4%	7.4%	8.2%	9.0%	6.0%	4.4%	9.1%	5.7%
		Other Fisheries	5.8%	3.3%	3.6%	4.4%	5.3%	8.8%	8.1%	5.8%	7.4%	1.9%	5.4%
		Salmon	20.9%	30.9%	28.1%	30.3%	31.3%	22.4%	21.9%	24.2%	22.1%	21.9%	25.9%
		"Non-Vessel" Fisheries	0.9%	1.5%	1.2%	1.2%	1.2%	8.2%	1.3%	1.2%	1.1%	1.2%	1.8%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Value of Fish Harvested by Alaska Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 -- As % of State Total As Percent of Total State Value of all Fisheries													
Alaska	Anchorage	PMA Crab Fisheries	1.0%	0.3%	0.9%	0.7%	1.3%	1.1%	1.0%	1.3%	1.3%	1.0%	1.0%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%	0.3%	0.1%
		Other Groundfish	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.1%	0.1%	0.3%	0.2%
		Other Fisheries	0.9%	0.5%	0.4%	0.5%	0.6%	0.9%	0.7%	0.5%	0.5%	0.2%	0.6%
		Salmon	3.0%	4.4%	3.6%	3.5%	3.8%	2.5%	2.2%	2.4%	3.1%	3.6%	3.3%
		"Non-Vessel" Fisheries	1.0%	1.8%	1.4%	1.5%	1.2%	2.2%	1.4%	0.9%	1.2%	1.2%	1.4%
		TOTAL HARVEST VALUE	6.1%	7.3%	6.6%	6.5%	7.2%	6.8%	5.5%	5.3%	6.3%	6.8%	6.5%
	Homer	PMA Crab Fisheries	1.5%	1.0%	1.4%	1.4%	1.1%	1.1%	0.9%	1.7%	1.6%	1.4%	1.3%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	0.4%	0.2%	0.2%	0.1%	0.3%	0.4%	0.6%	0.5%	0.5%	1.3%	0.4%
		Other Groundfish	0.3%	0.4%	0.7%	0.6%	0.5%	0.4%	0.5%	0.3%	0.3%	0.5%	0.5%
		Other Fisheries	2.2%	1.2%	1.6%	1.8%	1.9%	2.8%	2.2%	1.8%	2.2%	0.4%	1.8%
		Salmon	2.3%	4.6%	3.0%	2.9%	3.6%	2.7%	3.1%	3.0%	3.3%	3.9%	3.3%
		"Non-Vessel" Fisheries	0.2%	0.3%	0.2%	0.4%	0.2%	0.6%	0.3%	0.2%	0.2%	0.2%	0.3%
		TOTAL HARVEST VALUE	7.0%	7.9%	7.3%	7.2%	7.6%	7.9%	7.5%	7.6%	8.0%	7.8%	7.6%

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
	King Cove/Sand Point	PMA Crab Fisheries	1.0%	0.8%	1.0%	1.1%	1.1%	0.9%	1.0%	1.6%	1.0%	0.4%	1.0%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	1.1%	0.8%	0.6%	0.6%	0.6%	1.0%	1.5%	1.5%	1.5%	2.7%	1.1%
		Other Groundfish	0.1%	0.1%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.1%
		Other Fisheries	0.9%	0.4%	0.4%	0.6%	0.1%	0.3%	0.4%	0.3%	0.4%	0.1%	0.4%
		Salmon	2.6%	4.1%	3.2%	2.5%	3.6%	1.3%	1.9%	3.1%	2.9%	2.4%	2.8%
		"Non-Vessel" Fisheries	0.2%	0.2%	0.1%	0.2%	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.1%
		TOTAL HARVEST VALUE	5.8%	6.4%	5.5%	5.1%	5.7%	4.3%	5.6%	7.1%	6.2%	6.3%	5.8%
	Kodiak	PMA Crab Fisheries	10.6%	8.5%	10.6%	8.5%	5.3%	4.6%	5.2%	7.7%	7.9%	6.0%	7.6%
		Non-PMA Crab Fisheries	0.7%	0.9%	0.7%	0.6%	0.3%	0.2%	0.2%	0.1%	0.1%	0.1%	0.4%
		Pollock	0.9%	1.7%	1.5%	1.4%	1.2%	1.0%	1.6%	1.3%	1.1%	1.5%	1.3%
		Pacific Cod	2.2%	1.2%	1.4%	1.1%	2.2%	2.2%	2.9%	2.7%	3.4%	5.0%	2.3%
		Other Groundfish	1.2%	1.2%	1.4%	1.5%	1.2%	2.3%	2.4%	1.8%	1.1%	2.6%	1.6%
		Other Fisheries	4.3%	2.3%	3.3%	3.5%	3.1%	5.1%	6.0%	4.8%	5.4%	0.4%	3.9%
		Salmon	3.6%	3.7%	4.0%	2.5%	4.7%	2.7%	2.3%	4.4%	3.5%	3.6%	3.5%
		"Non-Vessel" Fisheries	0.9%	0.6%	0.7%	0.6%	1.0%	1.0%	0.7%	1.2%	1.0%	0.8%	0.8%
		TOTAL HARVEST VALUE	24.5%	20.0%	23.6%	19.7%	19.0%	19.1%	21.4%	24.0%	23.3%	20.1%	21.4%
	Other Alaska	PMA Crab Fisheries	1.9%	1.6%	2.0%	1.8%	1.9%	1.5%	1.9%	3.5%	2.7%	1.6%	2.0%
		Non-PMA Crab Fisheries	2.7%	1.5%	1.6%	2.2%	3.7%	2.4%	3.4%	2.7%	2.6%	3.2%	2.5%
		Pollock	0.2%	0.5%	0.3%	0.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%
		Pacific Cod	1.1%	0.8%	0.6%	0.4%	0.7%	0.7%	1.0%	0.8%	1.2%	1.7%	0.9%
		Other Groundfish	6.0%	4.9%	5.9%	7.5%	7.7%	8.3%	9.4%	7.3%	5.2%	11.3%	7.1%
		Other Fisheries	12.6%	6.3%	8.4%	9.5%	10.3%	13.8%	13.2%	10.6%	11.0%	3.8%	10.0%
		Salmon	25.0%	32.2%	30.4%	31.8%	29.0%	24.7%	24.4%	26.4%	27.8%	32.0%	28.5%
		"Non-Vessel" Fisheries	6.9%	10.5%	7.7%	7.9%	7.1%	10.3%	6.5%	4.7%	5.6%	5.3%	7.5%
		TOTAL HARVEST VALUE	56.4%	58.4%	57.0%	61.4%	60.3%	61.8%	59.9%	56.1%	56.1%	58.9%	58.7%
Total Alaska		PMA Crab Fisheries	16.0%	12.3%	15.9%	13.5%	10.7%	9.1%	10.0%	15.7%	14.4%	10.5%	12.9%
		Non-PMA Crab Fisheries	3.6%	2.5%	2.4%	2.9%	4.0%	2.7%	3.6%	2.9%	2.7%	3.3%	3.0%
		Pollock	1.3%	2.2%	1.9%	1.9%	1.5%	1.4%	2.4%	1.9%	1.6%	2.2%	1.8%
		Pacific Cod	4.9%	3.1%	2.9%	2.2%	3.8%	4.4%	6.0%	5.6%	6.7%	11.0%	4.7%
		Other Groundfish	7.7%	6.7%	8.2%	9.7%	9.7%	11.4%	12.6%	9.5%	6.6%	14.8%	9.4%
		Other Fisheries	20.8%	10.7%	14.1%	15.9%	16.0%	22.9%	22.5%	18.0%	19.4%	4.9%	16.7%
		Salmon	36.6%	48.9%	44.3%	43.2%	44.8%	33.9%	33.9%	39.2%	40.5%	45.6%	41.3%
		"Non-Vessel" Fisheries	9.2%	13.4%	10.2%	10.6%	9.5%	14.2%	9.0%	7.2%	8.0%	7.7%	10.1%
		TOTAL HARVEST VALUE	99.9%	100.0%	100.0%	99.9%	99.9%	100.0%	100.0%	100.0%	99.9%	100.0%	100.0%

Notes: "Non-Vessel" Fisheries are fish ticket harvests not associated with a licensed vessel
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-36. Total Value of Fish Harvested by Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery (1991-2000) as Percentage of Individual Fishery Category (all States)

State	City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
Total Value of Fish Harvested by Oregon Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 As Percent of the Individual Fishery Category													
Oregon	Newport	PMA Crab Fisheries	3.5%	3.0%	5.0%	6.1%	5.2%	5.0%	5.7%	5.2%	4.9%	8.1%	4.9%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	10.8%	8.9%	8.1%	8.1%	8.3%	7.2%	6.4%	6.6%	7.2%	6.5%	7.7%
		Pacific Cod	6.9%	9.7%	12.1%	10.0%	13.6%	10.7%	12.3%	14.5%	11.9%	8.4%	10.8%
		Other Groundfish	0.9%	0.2%	0.2%	0.4%	1.0%	0.9%	1.0%	1.1%	1.1%	0.8%	0.8%
		Other Fisheries	0.9%	0.3%	0.3%	0.5%	1.3%	0.9%	1.5%	1.2%	1.5%	0.0%	1.0%
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
		TOTAL HARVEST VALUE	2.3%	2.0%	2.5%	2.6%	2.6%	2.3%	3.0%	3.1%	3.1%	3.5%	2.6%
	Other Oregon	PMA Crab Fisheries	1.5%	1.8%	2.1%	1.9%	1.8%	1.5%	1.3%	1.5%	2.1%	2.7%	1.8%
		Non-PMA Crab Fisheries	1.7%	1.9%	1.9%	1.4%	*	*	0.3%	0.0%	0.0%	0.0%	0.8%
		Pollock	2.7%	3.6%	4.0%	4.0%	2.5%	4.5%	3.5%	5.3%	3.5%	3.8%	3.7%
		Pacific Cod	3.0%	7.5%	8.1%	4.4%	3.9%	4.1%	4.3%	6.4%	6.9%	5.0%	5.3%
		Other Groundfish	2.9%	4.3%	5.1%	3.3%	3.4%	3.6%	4.1%	4.3%	3.8%	4.6%	3.9%
		Other Fisheries	3.3%	2.6%	2.8%	2.8%	2.5%	2.2%	3.1%	3.4%	3.8%	1.0%	2.9%
		Salmon	3.0%	4.3%	3.5%	3.4%	*	*	3.0%	2.7%	3.1%	3.1%	3.4%
		"Non-Vessel" Fisheries	1.3%	1.8%	2.2%	2.5%	2.6%	4.8%	3.1%	3.4%	2.9%	3.1%	2.9%
		TOTAL HARVEST VALUE	2.4%	3.4%	3.2%	2.9%	2.8%	3.2%	2.9%	3.0%	3.2%	3.4%	3.0%
Total Oregon		PMA Crab Fisheries	5.0%	4.9%	7.1%	8.0%	6.9%	6.5%	7.0%	6.7%	7.0%	10.8%	6.7%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	13.5%	12.5%	12.2%	12.1%	10.8%	11.6%	9.9%	11.9%	10.8%	10.3%	11.4%
		Pacific Cod	9.9%	17.3%	20.2%	14.5%	17.4%	14.8%	16.5%	20.9%	18.8%	13.4%	16.1%
		Other Groundfish	3.7%	4.5%	5.3%	3.7%	4.4%	4.5%	5.0%	5.4%	4.8%	5.4%	4.7%
		Other Fisheries	4.2%	2.9%	3.1%	3.3%	3.8%	3.2%	4.7%	4.6%	5.3%	1.0%	3.9%
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries	1.3%	1.8%	2.2%	2.5%	2.6%	4.9%	3.1%	3.4%	2.9%	3.1%	2.9%
		TOTAL HARVEST VALUE	4.7%	5.4%	5.7%	5.5%	5.4%	5.5%	5.9%	6.1%	6.3%	6.9%	5.7%
Total Value of Fish Harvested by "Other States" Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 As Percent of the Individual Fishery Category													
Total Other States		PMA Crab Fisheries	0.6%	0.8%	0.9%	1.2%	1.9%	1.9%	1.9%	2.0%	2.3%	1.8%	1.4%
		Non-PMA Crab Fisheries	1.6%	2.5%	0.9%	0.8%	1.2%	*	*	1.7%	2.2%	1.9%	1.5%
		Pollock	7.3%	7.4%	7.8%	7.0%	6.0%	*	*	2.5%	3.5%	3.5%	5.1%
		Pacific Cod	3.8%	2.0%	0.5%	1.7%	2.7%	3.0%	1.0%	2.3%	0.9%	2.0%	2.0%
		Other Groundfish	3.9%	2.4%	1.6%	1.0%	2.8%	2.2%	1.9%	2.2%	3.3%	3.4%	2.5%
		Other Fisheries	3.0%	5.3%	5.5%	4.9%	3.0%	3.8%	3.3%	3.6%	3.8%	11.0%	4.1%
		Salmon	6.1%	7.1%	7.4%	8.2%	8.1%	6.7%	5.8%	6.4%	6.7%	7.7%	7.1%
		"Non-Vessel" Fisheries	6.4%	6.8%	7.4%	7.8%	7.9%	12.6%	8.3%	9.0%	9.3%	9.9%	8.7%
		TOTAL HARVEST VALUE	3.7%	5.0%	4.6%	5.0%	5.2%	5.1%	3.3%	4.0%	4.4%	4.9%	4.6%

State	City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
Total Value of Fish Harvested by Washington Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 As Percent of the Individual Fishery Category													
Washington	Other Washington	PMA Crab Fisheries	3.0%	4.0%	4.0%	4.1%	5.1%	4.2%	4.7%	4.6%	5.1%	3.9%	4.2%
		Non-PMA Crab Fisheries	16.2%	7.4%	7.0%	5.5%	7.3%	4.2%	7.9%	6.3%	6.2%	3.3%	7.5%
		Pollock	14.4%	13.9%	9.2%	13.5%	14.4%	12.9%	10.8%	11.4%	10.4%	11.4%	12.2%
		Pacific Cod	9.3%	8.2%	7.4%	6.8%	6.5%	5.8%	5.8%	4.4%	5.9%	6.6%	6.6%
		Other Groundfish	9.6%	7.9%	5.4%	8.6%	11.1%	10.5%	10.6%	10.4%	12.1%	11.7%	9.9%
		Other Fisheries	8.6%	8.3%	7.4%	7.5%	10.3%	9.5%	8.6%	8.0%	8.9%	13.8%	8.8%
		Salmon	16.0%	16.0%	16.5%	17.0%	18.0%	15.6%	16.3%	16.9%	15.4%	15.5%	16.4%
		"Non-Vessel" Fisheries	4.9%	4.6%	5.9%	5.5%	6.0%	14.8%	5.8%	7.3%	6.1%	7.0%	7.4%
		TOTAL HARVEST VALUE	9.4%	10.6%	9.6%	10.5%	12.1%	11.1%	10.2%	10.2%	9.9%	10.7%	10.5%
	S-T CMSA	PMA Crab Fisheries	66.9%	65.3%	63.8%	62.3%	62.2%	60.8%	58.8%	58.1%	58.9%	56.1%	62.1%
		Non-PMA Crab Fisheries	4.3%	12.8%	24.9%	31.2%	29.4%	23.8%	11.3%	5.9%	7.3%	9.2%	17.8%
		Pollock	54.8%	55.5%	58.0%	55.1%	60.6%	63.0%	66.7%	65.2%	68.0%	68.3%	61.8%
		Pacific Cod	31.4%	23.6%	24.6%	32.1%	27.0%	32.7%	32.2%	22.8%	24.2%	34.9%	29.0%
		Other Groundfish	24.5%	20.9%	17.2%	17.8%	26.4%	22.2%	23.5%	22.0%	21.8%	21.4%	22.0%
		Other Fisheries	9.8%	10.5%	9.7%	10.0%	11.0%	11.3%	12.1%	12.0%	13.7%	9.9%	11.2%
		Salmon	14.6%	14.7%	15.9%	16.1%	15.9%	14.3%	14.9%	14.5%	13.6%	12.0%	14.8%
		"Non-Vessel" Fisheries	2.8%	3.4%	3.0%	2.6%	3.4%	10.2%	3.2%	3.8%	3.2%	4.1%	4.5%
		TOTAL HARVEST VALUE	33.6%	30.3%	32.9%	30.7%	30.0%	27.4%	30.1%	31.3%	31.6%	31.8%	31.0%
Total Washington		PMA Crab Fisheries	69.9%	69.2%	67.8%	66.3%	67.3%	65.0%	63.5%	62.7%	64.0%	60.0%	66.3%
		Non-PMA Crab Fisheries	20.5%	20.2%	31.9%	36.7%	36.7%	28.0%	19.2%	12.2%	13.5%	12.5%	25.3%
		Pollock	69.2%	69.4%	67.2%	68.6%	75.0%	75.9%	77.5%	76.6%	78.4%	79.7%	74.1%
		Pacific Cod	40.7%	31.8%	32.0%	38.9%	33.6%	38.5%	38.0%	27.1%	30.1%	41.5%	35.6%
		Other Groundfish	34.1%	28.8%	22.6%	26.4%	37.5%	32.8%	34.1%	32.4%	33.9%	33.1%	31.9%
		Other Fisheries	18.4%	18.8%	17.1%	17.5%	21.3%	20.8%	20.7%	20.0%	22.6%	23.7%	19.9%
		Salmon	30.6%	30.7%	32.5%	33.2%	33.9%	29.9%	31.2%	31.4%	29.0%	27.5%	31.2%
		"Non-Vessel" Fisheries	7.8%	8.0%	8.9%	8.1%	9.3%	25.0%	9.0%	11.1%	9.3%	11.2%	11.9%
		TOTAL HARVEST VALUE	43.1%	40.9%	42.6%	41.3%	42.1%	38.4%	40.3%	41.5%	41.5%	42.4%	41.4%
Total Value of Fish Harvested by Alaska Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 As Percent of the Individual Fishery Category													
Alaska	Anchorage	PMA Crab Fisheries	1.6%	0.7%	1.3%	1.3%	2.9%	3.1%	2.6%	2.4%	2.4%	2.7%	1.9%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	0.6%	1.7%	0.9%	0.6%	1.0%	0.4%	0.1%	0.7%	0.6%	1.0%	0.7%
		Other Groundfish	1.2%	1.7%	1.8%	1.1%	1.1%	1.0%	1.3%	0.8%	1.2%	1.3%	1.3%
		Other Fisheries	3.2%	3.6%	2.2%	2.5%	2.8%	2.9%	2.3%	1.9%	1.7%	2.8%	2.6%
		Salmon	5.0%	5.2%	4.6%	4.4%	4.6%	4.3%	3.8%	3.6%	4.7%	4.9%	4.6%
		"Non-Vessel" Fisheries	9.0%	11.1%	11.2%	11.7%	10.3%	8.8%	12.3%	9.8%	11.5%	12.0%	10.6%
		TOTAL HARVEST VALUE	3.0%	3.6%	3.1%	3.1%	3.4%	3.5%	2.8%	2.6%	3.0%	3.1%	3.1%

State	City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
	Homer	PMA Crab Fisheries	2.2%	2.1%	2.2%	2.5%	2.5%	3.1%	2.5%	3.1%	2.9%	3.6%	2.6%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	3.5%	3.5%	2.8%	2.2%	3.4%	3.8%	4.3%	4.7%	4.1%	5.3%	4.0%
		Other Groundfish	2.6%	3.9%	5.8%	4.2%	3.1%	2.2%	2.2%	2.1%	2.3%	2.1%	3.0%
		Other Fisheries	7.8%	8.4%	8.4%	8.3%	8.3%	8.7%	6.9%	7.2%	7.6%	4.9%	7.9%
		Salmon	3.8%	5.4%	3.8%	3.7%	4.4%	4.8%	5.5%	4.6%	4.9%	5.3%	4.6%
		"Non-Vessel" Fisheries	2.1%	2.1%	1.9%	2.9%	1.5%	2.4%	2.4%	1.7%	1.8%	2.2%	2.1%
		TOTAL HARVEST VALUE	3.4%	3.9%	3.4%	3.5%	3.6%	4.0%	3.8%	3.7%	3.8%	3.6%	3.7%
	King Cove/Sand Point	PMA Crab Fisheries	1.6%	1.6%	1.6%	2.1%	2.5%	2.8%	2.9%	2.8%	1.8%	1.1%	2.0%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	10.5%	13.1%	9.5%	11.9%	7.1%	10.1%	11.1%	13.4%	10.9%	10.7%	10.8%
		Other Groundfish	0.5%	0.5%	0.3%	0.2%	0.0%	1.4%	0.1%	0.1%	0.0%	0.0%	0.3%
		Other Fisheries	3.1%	2.6%	2.0%	2.7%	0.6%	0.9%	1.4%	1.1%	1.3%	0.8%	1.7%
		Salmon	4.2%	4.9%	4.1%	3.1%	4.4%	2.4%	3.3%	4.7%	4.3%	3.3%	4.0%
		"Non-Vessel" Fisheries	1.5%	1.3%	1.2%	1.3%	0.8%	0.4%	0.8%	1.6%	1.2%	1.5%	1.1%
		TOTAL HARVEST VALUE	2.8%	3.1%	2.6%	2.5%	2.7%	2.2%	2.8%	3.4%	3.0%	2.9%	2.8%
	Kodiak	PMA Crab Fisheries	16.2%	17.4%	16.0%	15.4%	11.9%	13.3%	14.3%	14.0%	14.6%	15.8%	15.1%
		Non-PMA Crab Fisheries	15.2%	25.1%	17.0%	11.5%	5.0%	5.0%	5.0%	3.4%	2.2%	2.6%	9.8%
		Pollock	7.3%	8.3%	10.0%	9.1%	6.6%	6.4%	6.7%	6.4%	4.8%	4.4%	6.9%
		Pacific Cod	20.6%	18.7%	23.7%	22.8%	26.9%	22.0%	21.5%	23.8%	25.3%	19.4%	22.3%
		Other Groundfish	8.8%	11.3%	12.1%	10.6%	6.8%	12.1%	11.2%	11.1%	9.3%	10.2%	10.3%
		Other Fisheries	15.5%	15.4%	17.5%	16.3%	13.8%	16.1%	19.1%	19.2%	18.9%	5.8%	16.7%
		Salmon	6.0%	4.3%	5.2%	3.2%	5.8%	4.8%	4.1%	6.6%	5.2%	4.9%	4.9%
		"Non-Vessel" Fisheries	8.6%	3.6%	5.7%	4.6%	8.2%	4.0%	6.2%	13.0%	9.5%	8.3%	6.3%
		TOTAL HARVEST VALUE	11.9%	9.7%	11.1%	9.5%	9.0%	9.7%	10.7%	11.6%	11.1%	9.2%	10.3%
	Other Alaska	PMA Crab Fisheries	2.9%	3.3%	3.0%	3.3%	4.1%	4.5%	5.3%	6.3%	4.9%	4.1%	4.0%
		Non-PMA Crab Fisheries	56.4%	44.2%	42.6%	45.0%	56.2%	65.0%	72.7%	81.5%	80.6%	81.4%	59.7%
		Pollock	1.9%	2.4%	2.2%	2.1%	0.1%	0.2%	0.1%	0.3%	0.1%	0.1%	0.9%
		Pacific Cod	10.4%	12.1%	10.5%	7.5%	8.0%	7.4%	7.6%	7.2%	9.3%	6.7%	8.5%
		Other Groundfish	45.1%	46.8%	50.5%	52.7%	44.2%	43.9%	44.2%	45.9%	45.2%	44.4%	46.1%
		Other Fisheries	44.9%	43.1%	44.2%	44.5%	46.3%	43.6%	41.6%	42.5%	38.6%	50.1%	43.3%
		Salmon	41.2%	38.2%	38.9%	40.6%	35.3%	43.6%	43.2%	40.0%	41.9%	43.3%	40.1%
		"Non-Vessel" Fisheries	63.5%	65.4%	61.5%	61.0%	59.3%	41.9%	57.9%	50.3%	54.4%	51.8%	56.4%
		TOTAL HARVEST VALUE	27.3%	28.5%	26.9%	29.6%	28.5%	31.5%	30.0%	27.1%	26.8%	26.9%	28.3%

State	City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
Total Alaska		PMA Crab Fisheries	24.5%	25.1%	24.1%	24.5%	23.9%	26.6%	27.6%	28.6%	26.6%	27.4%	25.5%
		Non-PMA Crab Fisheries	74.9%	73.7%	63.7%	59.6%	61.5%	71.2%	78.3%	86.0%	83.2%	85.1%	71.5%
		Pollock	10.0%	10.7%	12.9%	12.2%	8.1%	8.8%	9.7%	9.0%	7.4%	6.5%	9.4%
		Pacific Cod	45.6%	49.0%	47.3%	45.0%	46.3%	43.6%	44.6%	49.7%	50.2%	43.1%	46.3%
		Other Groundfish	58.2%	64.3%	70.5%	68.9%	55.2%	60.5%	59.0%	60.0%	58.0%	58.1%	61.0%
		Other Fisheries	74.4%	73.0%	74.4%	74.3%	71.9%	72.3%	71.3%	71.8%	68.3%	64.4%	72.1%
		Salmon	60.2%	57.9%	56.6%	55.2%	54.5%	59.9%	59.9%	59.5%	61.1%	61.7%	58.2%
		"Non-Vessel" Fisheries	84.6%	83.5%	81.5%	81.5%	80.1%	57.4%	79.6%	76.4%	78.4%	75.8%	76.5%
		TOTAL HARVEST VALUE	48.5%	48.7%	47.1%	48.1%	47.3%	51.0%	50.1%	48.4%	47.8%	45.7%	48.3%
GRAND TOTALS		PMA Crab Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Non-PMA Crab Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Pollock	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Pacific Cod	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Other Groundfish	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Other Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Salmon	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		"Non-Vessel" Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.6%	100.0%	100.0%	100.0%	100.0%

Notes: "Non-Vessel" Fisheries are fish ticket harvests not associated with a licensed vessel
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-37. Total Value of Fish Harvested by Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery (1991-2000) as Percentage of Combined Total Value (all States) of all Alaskan Fisheries

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total Value of Fish Harvested by Oregon Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 - As % of Yearly Grand Total As Percent of Combined Total Value of all Fisheries													
Oregon	Newport	PMA Crab Fisheries	1.1%	0.7%	1.6%	1.6%	1.1%	0.9%	1.0%	1.4%	1.3%	1.4%	1.2%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	0.7%	0.9%	0.6%	0.6%	0.7%	0.6%	0.8%	0.7%	0.8%	1.0%	0.7%
		Pacific Cod	0.4%	0.3%	0.3%	0.2%	0.5%	0.5%	0.8%	0.8%	0.8%	1.0%	0.5%
		Other Groundfish	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
		Other Fisheries	0.1%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.1%	0.2%	0.0%	0.1%
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
		TOTAL HARVEST VALUE	2.3%	2.0%	2.5%	2.6%	2.6%	2.3%	3.0%	3.1%	3.1%	3.5%	2.6%
	Other Oregon	PMA Crab Fisheries	0.5%	0.4%	0.6%	0.5%	0.4%	0.3%	0.2%	0.4%	0.5%	0.5%	0.4%
		Non-PMA Crab Fisheries	0.0%	0.0%	0.0%	0.0%	*	*	0.0%	0.0%	0.0%	0.0%	0.0%
		Pollock	0.2%	0.4%	0.3%	0.3%	0.2%	0.4%	0.4%	0.5%	0.4%	0.6%	0.3%
		Pacific Cod	0.2%	0.2%	0.2%	0.1%	0.2%	0.2%	0.3%	0.4%	0.4%	0.6%	0.3%
		Other Groundfish	0.2%	0.2%	0.3%	0.2%	0.3%	0.3%	0.4%	0.3%	0.2%	0.5%	0.3%
		Other Fisheries	0.4%	0.2%	0.3%	0.3%	0.3%	0.4%	0.5%	0.4%	0.5%	0.0%	0.3%
		Salmon	0.9%	1.8%	1.3%	1.3%	*	*	0.8%	0.9%	1.0%	1.0%	1.2%
		"Non-Vessel" Fisheries	0.1%	0.1%	0.1%	0.2%	0.1%	0.6%	0.2%	0.2%	0.1%	0.1%	0.2%
		TOTAL HARVEST VALUE	2.4%	3.4%	3.2%	2.9%	2.8%	3.2%	2.9%	3.0%	3.2%	3.4%	3.0%
Total Oregon		PMA Crab Fisheries	1.6%	1.2%	2.2%	2.1%	1.5%	1.1%	1.3%	1.8%	1.8%	1.9%	1.6%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	0.8%	1.2%	0.9%	0.9%	0.9%	1.0%	1.2%	1.2%	1.1%	1.6%	1.1%
		Pacific Cod	0.5%	0.5%	0.6%	0.3%	0.7%	0.8%	1.1%	1.1%	1.2%	1.6%	0.8%
		Other Groundfish	0.2%	0.2%	0.3%	0.3%	0.4%	0.4%	0.5%	0.4%	0.3%	0.6%	0.3%
		Other Fisheries	0.6%	0.2%	0.3%	0.3%	0.4%	0.5%	0.7%	0.6%	0.7%	0.0%	0.4%
		Salmon	*	*	*	*	*	*	*	*	*	*	*
		"Non-Vessel" Fisheries	0.1%	0.1%	0.1%	0.2%	0.1%	0.6%	0.2%	0.2%	0.1%	0.1%	0.2%
		TOTAL HARVEST VALUE	4.7%	5.4%	5.7%	5.5%	5.4%	5.5%	5.9%	6.1%	6.3%	6.9%	5.7%
Total Value of Fish Harvested by "Other Sta68tes" Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 -- As % of Yearly Grand Total As Percent of Combined Total Value of all Fisheries													
Total Other States		PMA Crab Fisheries	0.2%	0.2%	0.3%	0.3%	0.4%	0.3%	0.3%	0.5%	0.6%	0.3%	0.3%
		Non-PMA Crab Fisheries	0.0%	0.0%	0.0%	0.0%	0.0%	*	*	0.0%	0.0%	0.0%	0.0%
		Pollock	0.4%	0.7%	0.5%	0.5%	0.5%	*	*	0.3%	0.4%	0.5%	0.5%
		Pacific Cod	0.2%	0.1%	0.0%	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%	0.2%	0.1%
		Other Groundfish	0.3%	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.4%	0.2%
		Other Fisheries	0.4%	0.4%	0.5%	0.5%	0.3%	0.6%	0.5%	0.4%	0.5%	0.4%	0.5%
		Salmon	1.8%	2.9%	2.7%	3.1%	3.2%	1.9%	1.6%	2.0%	2.1%	2.6%	2.4%
		"Non-Vessel" Fisheries	0.3%	0.5%	0.4%	0.5%	0.4%	1.6%	0.5%	0.4%	0.5%	0.5%	0.6%
		TOTAL HARVEST VALUE	3.7%	5.0%	4.6%	5.0%	5.2%	5.1%	3.3%	4.0%	4.4%	4.9%	4.6%

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total Value of Fish Harvested by Washington Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 -- As % of Yearly Grand Total As Percent of Combined Total Value of all Fisheries													
Washington	Other Washington	PMA Crab Fisheries	0.9%	0.9%	1.3%	1.1%	1.1%	0.7%	0.9%	1.2%	1.3%	0.7%	1.0%
		Non-PMA Crab Fisheries	0.4%	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.1%	0.1%	0.1%	0.2%
		Pollock	0.9%	1.4%	0.6%	1.0%	1.2%	1.1%	1.3%	1.1%	1.1%	1.8%	1.1%
		Pacific Cod	0.5%	0.3%	0.2%	0.2%	0.3%	0.3%	0.4%	0.2%	0.4%	0.8%	0.3%
		Other Groundfish	0.6%	0.4%	0.3%	0.6%	0.9%	1.0%	1.1%	0.8%	0.7%	1.4%	0.7%
		Other Fisheries	1.2%	0.6%	0.7%	0.8%	1.1%	1.5%	1.4%	1.0%	1.2%	0.5%	1.0%
		Salmon	4.7%	6.6%	6.1%	6.4%	7.0%	4.5%	4.6%	5.4%	4.9%	5.2%	5.6%
		"Non-Vessel" Fisheries	0.3%	0.4%	0.3%	0.3%	0.3%	1.9%	0.3%	0.3%	0.3%	0.3%	0.5%
		TOTAL HARVEST VALUE	9.4%	10.6%	9.6%	10.5%	12.1%	11.1%	10.2%	10.2%	9.9%	10.7%	10.5%
	S-T CMSA	PMA Crab Fisheries	21.2%	15.6%	19.8%	16.5%	13.1%	10.7%	10.7%	15.5%	15.2%	9.8%	15.1%
		Non-PMA Crab Fisheries	0.1%	0.2%	0.4%	0.7%	0.9%	0.5%	0.3%	0.1%	0.1%	0.2%	0.4%
		Pollock	3.4%	5.5%	4.1%	4.2%	5.2%	5.2%	8.1%	6.5%	7.2%	10.6%	5.8%
		Pacific Cod	1.6%	0.7%	0.7%	0.8%	1.1%	1.7%	2.2%	1.2%	1.5%	4.1%	1.4%
		Other Groundfish	1.6%	1.1%	0.9%	1.2%	2.2%	2.1%	2.5%	1.7%	1.2%	2.5%	1.6%
		Other Fisheries	1.3%	0.8%	0.9%	1.0%	1.2%	1.8%	1.9%	1.5%	1.9%	0.3%	1.3%
		Salmon	4.3%	6.1%	5.9%	6.1%	6.2%	4.1%	4.2%	4.6%	4.3%	4.1%	5.1%
		"Non-Vessel" Fisheries	0.1%	0.3%	0.2%	0.2%	0.2%	1.3%	0.2%	0.2%	0.2%	0.2%	0.3%
		TOTAL HARVEST VALUE	33.6%	30.3%	32.9%	30.7%	30.0%	27.4%	30.1%	31.3%	31.6%	31.8%	31.0%
Total Washington		PMA Crab Fisheries	22.1%	16.6%	21.1%	17.6%	14.2%	11.4%	11.6%	16.7%	16.5%	10.5%	16.1%
		Non-PMA Crab Fisheries	0.5%	0.3%	0.6%	0.9%	1.1%	0.5%	0.4%	0.2%	0.2%	0.2%	0.5%
		Pollock	4.2%	6.9%	4.7%	5.3%	6.4%	6.3%	9.4%	7.7%	8.3%	12.4%	6.9%
		Pacific Cod	2.1%	1.0%	0.9%	0.9%	1.3%	2.0%	2.6%	1.5%	1.9%	4.8%	1.8%
		Other Groundfish	2.2%	1.5%	1.2%	1.8%	3.1%	3.1%	3.6%	2.5%	1.8%	3.8%	2.4%
		Other Fisheries	2.5%	1.3%	1.5%	1.8%	2.2%	3.4%	3.3%	2.4%	3.1%	0.8%	2.2%
		Salmon	9.0%	12.6%	12.0%	12.5%	13.2%	8.6%	8.8%	10.0%	9.2%	9.3%	10.7%
		"Non-Vessel" Fisheries	0.4%	0.6%	0.5%	0.5%	0.5%	3.1%	0.5%	0.5%	0.5%	0.5%	0.8%
		TOTAL HARVEST VALUE	43.1%	40.9%	42.6%	41.3%	42.1%	38.4%	40.3%	41.5%	41.5%	42.4%	41.4%
Total Value of Fish Harvested by Alaska Vessels Participating in Alaskan Fisheries, by Vessel Owners' Community and Fishery, 1991-2000 -- As % of Yearly Grand Total As Percent of Combined Total Value of all Fisheries													
Alaska	Anchorage	PMA Crab Fisheries	0.5%	0.2%	0.4%	0.3%	0.6%	0.5%	0.5%	0.6%	0.6%	0.5%	0.5%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
		Other Groundfish	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
		Other Fisheries	0.4%	0.3%	0.2%	0.3%	0.3%	0.5%	0.4%	0.2%	0.2%	0.1%	0.3%
		Salmon	1.5%	2.1%	1.7%	1.7%	1.8%	1.3%	1.1%	1.1%	1.5%	1.7%	1.6%
		"Non-Vessel" Fisheries	0.5%	0.9%	0.7%	0.7%	0.6%	1.1%	0.7%	0.4%	0.6%	0.6%	0.7%
		TOTAL HARVEST VALUE	3.0%	3.6%	3.1%	3.1%	3.4%	3.5%	2.8%	2.6%	3.0%	3.1%	3.1%

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
	Homer	PMA Crab Fisheries	0.7%	0.5%	0.7%	0.7%	0.5%	0.5%	0.5%	0.8%	0.7%	0.6%	0.6%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	0.2%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.3%	0.3%	0.6%	0.2%
		Other Groundfish	0.2%	0.2%	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.1%	0.2%	0.2%
		Other Fisheries	1.1%	0.6%	0.8%	0.8%	0.9%	1.4%	1.1%	0.9%	1.0%	0.2%	0.9%
		Salmon	1.1%	2.2%	1.4%	1.4%	1.7%	1.4%	1.6%	1.5%	1.6%	1.8%	1.6%
		"Non-Vessel" Fisheries	0.1%	0.2%	0.1%	0.2%	0.1%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%
		TOTAL HARVEST VALUE	3.4%	3.9%	3.4%	3.5%	3.6%	4.0%	3.8%	3.7%	3.8%	3.6%	3.7%
	King Cove/Sand Point	PMA Crab Fisheries	0.5%	0.4%	0.5%	0.6%	0.5%	0.5%	0.5%	0.8%	0.5%	0.2%	0.5%
		Non-PMA Crab Fisheries	*	*	*	*	*	*	*	*	*	*	*
		Pollock	*	*	*	*	*	*	*	*	*	*	*
		Pacific Cod	0.5%	0.4%	0.3%	0.3%	0.3%	0.5%	0.8%	0.7%	0.7%	1.3%	0.5%
		Other Groundfish	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
		Other Fisheries	0.4%	0.2%	0.2%	0.3%	0.1%	0.2%	0.2%	0.1%	0.2%	0.0%	0.2%
		Salmon	1.2%	2.0%	1.5%	1.2%	1.7%	0.7%	0.9%	1.5%	1.4%	1.1%	1.4%
		"Non-Vessel" Fisheries	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%
		TOTAL HARVEST VALUE	2.8%	3.1%	2.6%	2.5%	2.7%	2.2%	2.8%	3.4%	3.0%	2.9%	2.8%
	Kodiak	PMA Crab Fisheries	5.1%	4.2%	5.0%	4.1%	2.5%	2.3%	2.6%	3.7%	3.8%	2.8%	3.7%
		Non-PMA Crab Fisheries	0.4%	0.4%	0.3%	0.3%	0.2%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%
		Pollock	0.4%	0.8%	0.7%	0.7%	0.6%	0.5%	0.8%	0.6%	0.5%	0.7%	0.6%
		Pacific Cod	1.1%	0.6%	0.7%	0.5%	1.1%	1.1%	1.5%	1.3%	1.6%	2.3%	1.1%
		Other Groundfish	0.6%	0.6%	0.7%	0.7%	0.6%	1.2%	1.2%	0.9%	0.5%	1.2%	0.8%
		Other Fisheries	2.1%	1.1%	1.6%	1.7%	1.5%	2.6%	3.0%	2.3%	2.6%	0.2%	1.9%
		Salmon	1.8%	1.8%	1.9%	1.2%	2.2%	1.4%	1.2%	2.1%	1.7%	1.7%	1.7%
		"Non-Vessel" Fisheries	0.5%	0.3%	0.3%	0.3%	0.5%	0.5%	0.4%	0.6%	0.5%	0.4%	0.4%
		TOTAL HARVEST VALUE	11.9%	9.7%	11.1%	9.5%	9.0%	9.7%	10.7%	11.6%	11.1%	9.2%	10.3%
	Other Alaska	PMA Crab Fisheries	0.9%	0.8%	0.9%	0.9%	0.9%	0.8%	1.0%	1.7%	1.3%	0.7%	1.0%
		Non-PMA Crab Fisheries	1.3%	0.7%	0.8%	1.1%	1.7%	1.2%	1.7%	1.3%	1.2%	1.5%	1.2%
		Pollock	0.1%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
		Pacific Cod	0.5%	0.4%	0.3%	0.2%	0.3%	0.4%	0.5%	0.4%	0.6%	0.8%	0.4%
		Other Groundfish	2.9%	2.4%	2.8%	3.6%	3.7%	4.2%	4.7%	3.5%	2.5%	5.2%	3.4%
		Other Fisheries	6.1%	3.1%	4.0%	4.6%	4.9%	7.0%	6.6%	5.1%	5.2%	1.7%	4.8%
		Salmon	12.1%	15.7%	14.3%	15.3%	13.7%	12.6%	12.2%	12.8%	13.3%	14.6%	13.8%
		"Non-Vessel" Fisheries	3.3%	5.1%	3.6%	3.8%	3.3%	5.3%	3.3%	2.3%	2.7%	2.4%	3.6%
		TOTAL HARVEST VALUE	27.3%	28.5%	26.9%	29.6%	28.5%	31.5%	30.0%	27.1%	26.8%	26.9%	28.3%

State	City	Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Total Alaska		PMA Crab Fisheries	7.8%	6.0%	7.5%	6.5%	5.0%	4.7%	5.0%	7.6%	6.9%	4.8%	6.2%
		Non-PMA Crab Fisheries	1.7%	1.2%	1.1%	1.4%	1.9%	1.4%	1.8%	1.4%	1.3%	1.5%	1.5%
		Pollock	0.6%	1.1%	0.9%	0.9%	0.7%	0.7%	1.2%	0.9%	0.8%	1.0%	0.9%
		Pacific Cod	2.4%	1.5%	1.4%	1.1%	1.8%	2.2%	3.0%	2.7%	3.2%	5.0%	2.3%
		Other Groundfish	3.7%	3.3%	3.9%	4.7%	4.6%	5.8%	6.3%	4.6%	3.2%	6.8%	4.5%
		Other Fisheries	10.1%	5.2%	6.7%	7.6%	7.6%	11.7%	11.3%	8.7%	9.3%	2.2%	8.1%
		Salmon	17.7%	23.8%	20.9%	20.8%	21.2%	17.3%	17.0%	19.0%	19.4%	20.8%	20.0%
		"Non-Vessel" Fisheries	4.4%	6.6%	4.8%	5.1%	4.5%	7.2%	4.5%	3.5%	3.8%	3.5%	4.9%
		TOTAL HARVEST VALUE	48.5%	48.7%	47.1%	48.1%	47.3%	51.0%	50.1%	48.4%	47.8%	45.7%	48.3%
GRAND TOTALS		PMA Crab Fisheries	31.7%	24.0%	31.0%	26.5%	21.1%	17.5%	18.2%	26.6%	25.8%	17.4%	24.3%
		Non-PMA Crab Fisheries	2.3%	1.7%	1.8%	2.3%	3.1%	1.9%	2.3%	1.6%	1.6%	1.8%	2.1%
		Pollock	6.1%	10.0%	7.0%	7.7%	8.5%	8.3%	12.2%	10.0%	10.6%	15.6%	9.3%
		Pacific Cod	5.2%	3.1%	2.9%	2.4%	3.9%	5.1%	6.8%	5.5%	6.4%	11.7%	4.9%
		Other Groundfish	6.4%	5.1%	5.5%	6.8%	8.3%	9.6%	10.7%	7.7%	5.5%	11.6%	7.4%
		Other Fisheries	13.6%	7.2%	8.9%	10.3%	10.5%	16.2%	15.8%	12.1%	13.6%	3.5%	11.2%
		Salmon	29.4%	41.2%	36.9%	37.7%	38.9%	28.9%	28.3%	31.9%	31.7%	33.8%	34.3%
		"Non-Vessel" Fisheries	5.3%	7.9%	5.9%	6.3%	5.6%	12.6%	5.6%	4.6%	4.9%	4.6%	6.4%
		TOTAL HARVEST VALUE	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	99.6%	100.0%	100.0%	100.0%	100.0%

Notes: "Non-Vessel" Fisheries are fish ticket harvests not associated with a licensed vessel
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 5: Processing Entities by Community and Region Data

Table A3-38 presents information on the number of processing entities in named communities by year. It supports the summary (or "average") tables in the text. The relative lack of more detailed tables for processing reflects the confidentiality issues inherent in assigning PMA processing data by location to a very limited number of entities. Even though named communities are combined to maintain confidentiality, it is still necessary to suppress many data cells when discussing value or volume information. Named "communities" are:

- For the south region, named places are Unalaska, Kodiak, and "Other South" (i.e., the residual category of the south region, excluding Unalaska and Kodiak).

- For the north region, quantitative volume of value data for either St. Paul alone or the region as a whole can be disclosed without running up against confidentiality constraints, but not both. Since total regional numbers are discussed elsewhere in the document, we have used total regional numbers in this section as well.

- Two different categories comprise "undesignated" data with respect to regional attribution:

  – "Floating" – this is a subset of all floating processors and consists of those floaters for which location information is lacking.

  – "CPs" – this is the category of catcher processors and is being considered for its own category of PMA and has no processing location or region associated with it.

Only limited quantitative information on PMA crab processors can be provided. As demonstrated by the summary processor count lines in the table, processor numbers in most localities of interest are too few to allow for the display of much information on PMA fisheries. Furthermore, because of these low numbers and the interactions of the fisheries, many cells of a table such as A3-38 that would otherwise not be confidential must be suppressed to protect the confidentiality of cells that are required to be suppressed in volume or value displays. The table also demonstrates that only for Unalaska can most species of PMA crab actually be discussed. For the North region, only opilio crab can be discussed as an individual species, and only all nine species together as a group. For Kodiak, only crab and the group of nine can be discussed in quantitative terms. For catcher processors the top three species (Bristol Bay red, Bering Sea opilio, and Bering Sea tanner) can be discussed, as well as the combined groups of nine, and perhaps subgroups of three and six. However, if the subgroups are discussed quantitatively, then St. Matthews Blue cannot be. Rather than provide extensive tables modeled on A3-38 that would consist mainly of suppressed cells, we have provided and discussed the limited non-confidential quantitative PMA crab processing information in the community profiles for Unalaska, Kodiak, and St. Paul. For St. Paul, there is the added complication that we can either discuss the northern region as a whole or St. Paul in quantitative terms, but not both, Since the regionalization discussion in the document already provides information on the northern region as a whole, we must also treat the region as a whole.

Table A3-38. Total Number of Processors (1991-2000) by City/Port Category and PMA Crab Fishery

Region	City	Year	PMA Crab Fishery								
			ADK_BRN	ADK_RED	BB_RED	BS_OPIE	BS_TANN	DUT_BRN	PRB_BLU	PRB_RED	STM_BLU
Undesignated	Floating	1991		1	6	11	13	1			2
		1992			8	6	13	1			6
		1993		1	4	7	13			2	2
		1994	1	1		6	1	1		1	1
		1995	1			7	1	1	1	1	1
		1996			2	4	1		1		
		1997	1		2	3			1	1	1
		1998	1		2	3			1	2	1
		1999			1	2					
		2000			2	2					
	Floating Total		4	3	27	51	42	4	4	7	14
	Floating Average		0.4	0.5	3.4	5.1	7.0	0.4	1.0	1.2	1.8
	C/P	1991	6	4	22	22	25	5			9
		1992	6	2	15	27	28	5			7
		1993	3	1	13	23	19	1		2	3
		1994	1	2		20	9				6
		1995	2	1		15	9	1	1		1
		1996	1		4	12	4				3
		1997	3		8	12		2			1
		1998	1		10	11		1			2
		1999	1		8	9		1			
		2000	1		6	9					
	C/P Total		25	10	86	160	94	16	1	2	32
	C/P Average		2.5	1.7	10.8	16.0	15.7	1.6	0.3	0.3	4.0
North	North	1991			1	5	2				1
		1992			1	3	2				2
		1993		1	1	6	4			2	4
		1994				10	2			4	6
		1995				8	2		4	4	4
		1996				8			4	4	4
		1997			2	7			4	4	4
		1998			1	7			4	3	4
		1999			1	7					
		2000				5					
	North Total		0	1	7	66	12	0	16	21	29
	North Average		0.0	0.2	0.9	6.6	2.0	0.0	4.0	3.5	3.6
South	Kodiak	1991			5	7	8				
		1992		1	4	4	7				
		1993			4	5	9			2	
		1994		2		2	5			2	1
		1995				3	4		1	1	
		1996			3	2	4		1	1	1
		1997			3	1			1	1	
		1998			1	2			1	1	
		1999			3	1					
		2000			4	3					
	Kodiak Total		0	3	27	30	37	0	4	8	2
	Kodiak Average		0.0	0.5	3.4	3.0	6.2	0.0	1.0	1.3	0.3
	Unalaska	1991	3	4	10	10	9	4			3
		1992	4	3	8	11	10	4			3
		1993	5	5	7	11	11	5		6	5
		1994	5	5		8	8	6		6	6
		1995	4	3		11	6	5	3	4	3
		1996	5	1	5	7	7	5	3	3	4
		1997	5		7	9		4	4	4	4
		1998	4		7	10		6	5	4	4
		1999	3		7	9		5			
		2000	4		6	5		3			
	Unalaska Total		42	21	57	91	51	47	15	27	32
	Unalaska Average		4.2	3.5	7.1	9.1	8.5	4.7	3.8	4.5	4.0

Region	City	Year	PMA Crab Fishery								
			ADK_BRN	ADK_RED	BB_RED	BS_OPIE	BS_TANN	DUT_BRN	PRB_BLU	PRB_RED	STM_BLU
	Other South	1991		2	5	4	6	1			
		1992	1	4	5	3	7				
		1993	1	1	5	4	8	2		2	
		1994	1	1		5	3	1		3	1
		1995	1			4	4		2	2	1
		1996			3	4	4		2	2	2
		1997	1		3	8			2	2	2
		1998			5	5			4	4	2
		1999	1		3	3		1			
		2000	2		5	5		1			
	Other South Total		8	8	34	45	32	6	10	15	8
	Other South Average		0.8	1.3	4.3	4.5	5.3	0.6	2.5	2.5	1.0
	South Total		50	32	118	166	120	53	29	50	42
	South Average		5.0	5.3	14.8	16.6	20.0	5.3	7.3	8.3	5.3
Grand Total			79	46	238	443	268	73	50	80	117
Fishery Average			7.9	7.7	29.8	44.3	44.7	7.3	12.5	13.3	14.6

Notes: "C/P" is the catcher processor sector, which is assigned its own IFQ/PQ and is not regionalized
"Floating" are mobile processors which could not be assigned city or port locations
"Other South" includes all southern locations except Kodiak and Unalaska
"North" includes St. George, St. Matthew, and St. Paul. Because of confidentiality, only Grouped North (and other totals) can be provided
Averages are computed using years that each fishery was actually open 1991-2000

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 6: Processing Value by Community and Region

The next series of tables provides value of processing information by fishery category for all processors (whether they process PMA crab or not) operating in those named localities for which the database provides reasonably complete information. As discussed in the SIA text, only those localities for which processing takes place primarily in fixed shoreplants (Kodiak, Unalaska, "Other South") is the locational information complete enough to be used. All PMA fisheries are combined, as the purpose of the tables is to describe the importance of PMA, relative to other large fishery categories, in terms of the "processing mix" or "dependence" of a named locality, as well as the "market share" possessed by each named locality of each large fishery category. It is likely that "processing mix" information is more robust than is "market share" information, although both should be used as indicators rather than as precise measures. Tables are:

- Table A3-39 displays the processing value in dollars for all processors operating in each named place, by year.

- Table A3-40 presents the numerical value in dollars of the processing in each fishery category of the processors operating in each named place, as a percent of the value of all processing for that named locality. This is a rough measure of "fisheries mix" or dependence upon any one large fishery category by the processors of a given named locality.

- Table A3-41 presents the value in dollars of the processing in each fishery category of the processors operating in each named place, as a percent of the value of the total processing value for each fishery category (combined value for all processors from all localities). This is a rough measure of "market share" of each fishery category historically processed by the processors of a given named locality.

Table A3-39. Value of Processing for Community Processors by Place of Operation and Fishery Category, by Year (1991-2000)

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Kodiak	All 9 PMA Crab Species	$4,588,767	$4,408,095	$4,677,212	$3,422,244	$3,153,972	$2,586,526	$1,389,062	$1,036,385	$3,553,489	$6,604,643	$3,542,040
	All Non-PMA Crab	$5,154,820	$6,892,022	$4,163,021	$3,727,014	$970,593	$876,894	$1,386,903	$668,133	$860,535	$421,403	$2,512,134
	Salmon	$28,490,759	$33,891,223	$30,919,937	$19,837,476	$41,353,791	$21,319,667	$16,552,661	$26,327,348	$28,587,045	$18,477,815	$26,575,772
	Pollock	$8,327,265	$14,772,329	$11,501,119	$12,570,228	$6,574,980	$4,369,377	$8,625,740	$11,190,433	$12,311,467	$11,798,065	$10,204,100
	Pacific Cod	$15,597,588	$11,423,941	$8,626,740	$6,328,672	$14,786,604	$10,450,046	$15,838,914	$13,186,623	$24,651,247	$22,687,612	$14,357,799
	Halibut	$22,182,856	$11,319,145	$11,705,472	$16,874,425	$14,228,126	$16,144,982	$22,115,588	$10,254,626	$17,374,280	$925	$14,220,043
	Sablefish	$7,421,681	$7,828,995	$6,781,326	$8,679,003	$7,233,079	$9,316,328	$8,305,717	$5,282,670	$5,521,587	$6,550,433	$7,292,082
	Other Groundfish	$2,095,784	$3,094,779	$3,013,060	$1,971,551	$2,855,387	$4,942,174	$4,716,379	$3,193,349	$2,383,764	$4,603,873	$3,287,010
	All Other Fisheries	$3,309,612	$2,072,771	$2,703,123	$2,034,232	$2,972,409	$4,880,542	$1,262,864	$829,988	$827,202	$788,980	$2,168,172
	Non-Commercial	$210,141	$427,741	$158,208	$1,484,242	$399,986	$544,197	$182,897	$697,593	$876,674	$1,360,770	$634,245
	Total of All Fisheries	$97,379,273	$96,131,041	$84,249,218	$76,929,087	$94,528,927	$75,430,733	$80,376,725	$72,667,148	$96,947,290	$73,294,519	$84,793,396
Unalaska	All 9 PMA Crab Species	$70,127,427	$67,256,910	$70,868,058	$64,946,324	$63,124,225	$53,321,214	$48,114,977	$63,689,328	$84,648,984	$42,425,541	$62,852,299
	All Non-PMA Crab	$706,700	$1,775,508	$2,501,828	$5,016,100	$6,159,017	$2,013,879	$1,609,819	$349,045	$966,569	$483,358	$2,158,182
	Salmon	$4,552,531	$7,398,910	$10,013,630	$12,551,911	$7,746,147	$6,659,712	$3,108,353	$4,100,565	$6,288,310	$3,437,423	$6,585,749
	Pollock	$37,435,879	$80,128,990	$44,444,685	$50,586,973	$55,400,054	$42,959,231	$58,971,109	$41,755,636	$62,437,793	$78,626,839	$55,274,719
	Pacific Cod	$7,778,885	$3,780,580	$4,462,915	$7,667,686	$10,989,681	$13,939,735	$11,286,448	$7,029,881	$8,819,980	$15,040,665	$9,079,646
	Halibut	$4,747,846	$2,366,389	$4,497,715	$5,271,277	$5,714,417	$3,528,928	$8,561,085	$2,307,552	$9,320,102	$23	$4,631,533
	Sablefish	$2,596,082	$3,527,305	$1,382,767	$1,479,770	$4,965,125	$2,657,017	$3,067,087	$1,078,649	$1,311,388	$2,395,279	$2,446,047
	Other Groundfish	$1,570,794	$823,404	$630,176	$1,622,946	$1,662,513	$845,177	$1,998,103	$253,459	$307,857	$611,064	$1,032,549
	All Other Fisheries	$796,861	$267,593	$1,121,952	$1,224,803	$1,253,862	$2,402,055	$350,490	$385,208	$513,402	$235,741	$855,197
	Non-Commercial	$53,826	$3,242	$6,703	$15,862	$488,417	$2,473,490	$2,659,737	$3,017,412	$5,249,780	$421,324	$1,438,979
	Total of All Fisheries	$130,366,831	$167,328,831	$139,930,429	$150,383,652	$157,503,458	$130,800,438	$139,727,208	$123,966,735	$179,864,165	$143,677,257	$146,354,900
Other South	All 9 PMA Crab Species	$30,970,962	$35,539,964	$33,645,692	$29,647,218	$18,614,816	$19,201,062	$16,255,993	$20,800,155	$32,537,375	$25,340,006	$26,255,324
	All Non-PMA Crab	$1,897,584	$1,355,825	$1,509,393	$1,684,499	$998,247	$777,395	$104,969	$16,792	$21,978	$1,115,415	$948,210
	Salmon	$112,831,194	$203,763,792	$137,402,965	$164,941,524	$181,067,220	$148,629,785	$89,780,744	$92,938,829	$150,094,275	$98,597,818	$138,004,815
	Pollock	$13,285,028	$21,675,497	$13,146,611	$18,841,069	$27,574,475	$25,535,805	$30,367,447	$17,809,408	$33,610,612	$52,293,514	$25,413,947
	Pacific Cod	$16,191,671	$14,454,263	$12,016,441	$9,301,535	$12,878,236	$18,509,885	$22,351,713	$17,560,769	$27,682,150	$27,209,250	$17,815,591
	Halibut	$20,682,481	$9,116,572	$7,912,213	$12,561,195	$9,176,070	$12,639,123	$12,986,989	$14,426,949	$24,911,052	$0	$12,441,264
	Sablefish	$6,246,426	$6,692,108	$3,959,476	$4,055,523	$8,304,938	$6,389,078	$4,945,639	$4,971,134	$7,077,545	$7,904,487	$6,054,635
	Other Groundfish	$208,140	$269,798	$238,420	$339,765	$698,916	$1,646,301	$377,196	$325,936	$336,248	$379,062	$481,978
	All Other Fisheries	$6,911,421	$11,747,838	$4,425,667	$2,918,516	$7,507,437	$10,095,506	$3,510,265	$2,729,119	$2,367,262	$1,046,950	$5,325,998
	Non-Commercial	$578,812	$1,131,853	$884,135	$4,038,448	$3,345,356	$1,851,795	$4,751,297	$2,866,361	$5,100,917	$2,742,807	$2,729,178
	Total of All Fisheries	$209,803,719	$305,747,510	$215,141,013	$248,329,292	$270,165,711	$245,275,735	$185,432,252	$174,445,452	$283,739,414	$216,629,309	$235,470,941
Other	All 9 PMA Crab Species	$200,008,866	$182,648,863	$195,347,299	$185,472,853	$136,216,674	$78,965,344	$82,060,470	$105,498,940	$143,263,480	$37,320,042	$134,680,283
	All Non-PMA Crab	$15,347,858	$10,798,188	$9,879,398	$15,282,227	$24,168,671	$13,114,251	$16,063,588	$10,627,446	$14,069,747	$16,933,472	$14,628,485
	Salmon	$188,143,489	$346,575,367	$240,667,697	$273,336,504	$235,630,037	$187,399,366	$165,709,047	$138,916,268	$189,481,648	$126,000,673	$209,186,010
	Pollock	$87,025	$4,442,150	$11,347	$49	$467	$12,508	$845,899	$1,114,551	$540,371	$117,578	$717,195
	Pacific Cod	$10,781,855	$7,720,128	$3,168,600	$2,263,824	$2,458,658	$2,046,008	$5,375,445	$1,504,832	$4,394,369	$9,104,373	$4,881,809
	Halibut	$51,083,029	$27,801,302	$35,910,232	$49,975,115	$38,327,532	$50,042,834	$66,737,142	$41,441,904	$65,809,929	$0	$42,712,902
	Sablefish	$37,306,826	$36,619,686	$36,004,888	$52,305,978	$58,523,762	$56,512,307	$60,319,536	$37,280,895	$36,543,150	$49,789,717	$46,120,675
	Other Groundfish	$4,622,806	$2,719,635	$1,755,790	$2,354,045	$2,422,237	$2,196,117	$2,884,462	$2,446,521	$2,322,807	$2,416,473	$2,614,089
	All Other Fisheries	$28,699,641	$28,767,621	$27,553,542	$28,079,093	$42,294,475	$55,272,141	$25,512,922	$21,414,110	$27,347,118	$20,302,849	$30,524,351
	Non-Commercial	$8,338,310	$12,497,499	$9,852,181	$16,974,347	$16,101,170	$19,719,232	$18,529,767	$24,568,260	$30,505,099	$26,222,066	$18,330,793
	Total of All Fisheries	$544,419,705	$660,590,439	$560,150,974	$626,044,035	$556,143,683	$465,280,108	$444,038,278	$384,813,727	$514,277,718	$288,207,243	$504,396,591

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
TOTAL	All 9 PMA Crab Species	$305,696,022	$289,853,832	$304,538,261	$283,488,639	$221,109,687	$154,074,146	$147,820,502	$191,024,808	$264,003,328	$111,690,232	$227,329,946
	All Non-PMA Crab	$23,106,962	$20,821,543	$18,053,640	$25,709,840	$32,296,528	$16,782,419	$19,165,279	$11,661,416	$15,918,829	$18,953,648	$20,247,010
	Salmon	$334,017,973	$591,629,292	$419,004,229	$470,667,415	$465,797,195	$364,008,530	$275,150,805	$262,283,010	$374,451,278	$246,513,729	$380,352,346
	Pollock	$59,135,197	$121,018,966	$69,103,762	$81,998,319	$89,549,976	$72,876,921	$98,810,195	$71,870,028	$108,900,243	$142,835,996	$91,609,960
	Pacific Cod	$50,349,999	$37,378,912	$28,274,696	$25,561,717	$41,113,179	$44,945,674	$54,852,520	$39,282,105	$65,547,746	$74,041,900	$46,134,845
	Halibut	$98,696,212	$50,603,408	$60,025,632	$84,682,012	$67,446,145	$82,355,867	$110,400,804	$68,431,031	$117,415,363	$948	$74,005,742
	Sablefish	$53,571,015	$54,668,094	$48,128,457	$66,520,274	$79,026,904	$74,874,730	$76,637,979	$48,613,348	$50,453,670	$66,639,916	$61,913,439
	Other Groundfish	$8,497,524	$6,907,616	$5,637,446	$6,288,307	$7,639,053	$9,629,769	$9,976,140	$6,219,265	$5,350,676	$8,010,472	$7,415,627
	All Other Fisheries	$39,717,535	$42,855,823	$35,804,284	$34,256,644	$54,028,183	$72,650,244	$30,636,541	$25,358,425	$31,054,984	$22,374,520	$38,873,718
	Non-Commercial	$9,181,089	$14,060,335	$10,901,227	$22,512,899	$20,334,929	$24,588,714	$26,123,698	$31,149,626	$41,732,470	$30,746,967	$23,133,195
	Total of All Fisheries	$981,969,528	$1,229,797,821	$999,471,634	$1,101,686,066	$1,078,341,779	$916,787,014	$849,574,463	$755,893,062	$1,074,828,587	$721,808,328	$971,015,828

Notes: Location information is best for shoreplants and unreliable for all other processors. Thus, only Kodiak, Unalaska, and "Other South" can be addressed with this data.
"Other" includes processors identified as in the Northern region, catcher processors and floaters without a geographic designation (most of them), and other unknowns.
"Non-commercial" harvest includes forfeited bycatch, test fisheries, CDQ, and other such classifications
PMA Crab includes both qualified and non-qualified landings by catcher vessels

Source: Summarized from the NPFMC Bering Sea Crab Data Base/2001_1.

Table A3-40. Value of Processing by Place of Operation and Fishery Category, by Year (1991-2000) as Percentage of Annual Total Processing in Place of Operation

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Kodiak	All 9 PMA Crab Species	4.7%	4.6%	5.6%	4.4%	3.3%	3.4%	1.7%	1.4%	3.7%	9.0%	4.2%
	All Non-PMA Crab	5.3%	7.2%	4.9%	4.8%	1.0%	1.2%	1.7%	0.9%	0.9%	0.6%	3.0%
	Salmon	29.3%	35.3%	36.7%	25.8%	43.7%	28.3%	20.6%	36.2%	29.5%	25.2%	31.3%
	Pollock	8.6%	15.4%	13.7%	16.3%	7.0%	5.8%	10.7%	15.4%	12.7%	16.1%	12.0%
	Pacific Cod	16.0%	11.9%	10.2%	8.2%	15.6%	13.9%	19.7%	18.1%	25.4%	31.0%	16.9%
	Halibut	22.8%	11.8%	13.9%	21.9%	15.1%	21.4%	27.5%	14.1%	17.9%	0.0%	16.8%
	Sablefish	7.6%	8.1%	8.0%	11.3%	7.7%	12.4%	10.3%	7.3%	5.7%	8.9%	8.6%
	Other Groundfish	2.2%	3.2%	3.6%	2.6%	3.0%	6.6%	5.9%	4.4%	2.5%	6.3%	3.9%
	All Other Fisheries	3.4%	2.2%	3.2%	2.6%	3.1%	6.5%	1.6%	1.1%	0.9%	1.1%	2.6%
	Non-Commercial	0.2%	0.4%	0.2%	1.9%	0.4%	0.7%	0.2%	1.0%	0.9%	1.9%	0.7%
	Total of All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Unalaska	All 9 PMA Crab Species	53.8%	40.2%	50.6%	43.2%	40.1%	40.8%	34.4%	51.4%	47.1%	29.5%	42.9%
	All Non-PMA Crab	0.5%	1.1%	1.8%	3.3%	3.9%	1.5%	1.2%	0.3%	0.5%	0.3%	1.5%
	Salmon	3.5%	4.4%	7.2%	8.3%	4.9%	5.1%	2.2%	3.3%	3.5%	2.4%	4.5%
	Pollock	28.7%	47.9%	31.8%	33.6%	35.2%	32.8%	42.2%	33.7%	34.7%	54.7%	37.8%
	Pacific Cod	6.0%	2.3%	3.2%	5.1%	7.0%	10.7%	8.1%	5.7%	4.9%	10.5%	6.2%
	Halibut	3.6%	1.4%	3.2%	3.5%	3.6%	2.7%	6.1%	1.9%	5.2%	0.0%	3.2%
	Sablefish	2.0%	2.1%	1.0%	1.0%	3.2%	2.0%	2.2%	0.9%	0.7%	1.7%	1.7%
	Other Groundfish	1.2%	0.5%	0.5%	1.1%	1.1%	0.6%	1.4%	0.2%	0.2%	0.4%	0.7%
	All Other Fisheries	0.6%	0.2%	0.8%	0.8%	0.8%	1.8%	0.3%	0.3%	0.3%	0.2%	0.6%
	Non-Commercial	0.0%	0.0%	0.0%	0.0%	0.3%	1.9%	1.9%	2.4%	2.9%	0.3%	1.0%
	Total of All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Other South	All 9 PMA Crab Species	14.8%	11.6%	15.6%	11.9%	6.9%	7.8%	8.8%	11.9%	11.5%	11.7%	11.2%
	All Non-PMA Crab	0.9%	0.4%	0.7%	0.7%	0.4%	0.3%	0.1%	0.0%	0.0%	0.5%	0.4%
	Salmon	53.8%	66.6%	63.9%	66.4%	67.0%	60.6%	48.4%	53.3%	52.9%	45.5%	58.6%
	Pollock	6.3%	7.1%	6.1%	7.6%	10.2%	10.4%	16.4%	10.2%	11.8%	24.1%	10.8%
	Pacific Cod	7.7%	4.7%	5.6%	3.7%	4.8%	7.5%	12.1%	10.1%	9.8%	12.6%	7.6%
	Halibut	9.9%	3.0%	3.7%	5.1%	3.4%	5.2%	7.0%	8.3%	8.8%	0.0%	5.3%
	Sablefish	3.0%	2.2%	1.8%	1.6%	3.1%	2.6%	2.7%	2.8%	2.5%	3.6%	2.6%
	Other Groundfish	0.1%	0.1%	0.1%	0.1%	0.3%	0.7%	0.2%	0.2%	0.1%	0.2%	0.2%
	All Other Fisheries	3.3%	3.8%	2.1%	1.2%	2.8%	4.1%	1.9%	1.6%	0.8%	0.5%	2.3%
	Non-Commercial	0.3%	0.4%	0.4%	1.6%	1.2%	0.8%	2.6%	1.6%	1.8%	1.3%	1.2%
	Total of All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Other	All 9 PMA Crab Species	36.7%	27.6%	34.9%	29.6%	24.5%	17.0%	18.5%	27.4%	27.9%	12.9%	26.7%
	All Non-PMA Crab	2.8%	1.6%	1.8%	2.4%	4.3%	2.8%	3.6%	2.8%	2.7%	5.9%	2.9%
	Salmon	34.6%	52.5%	43.0%	43.7%	42.4%	40.3%	37.3%	36.1%	36.8%	43.7%	41.5%
	Pollock	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.2%	0.3%	0.1%	0.0%	0.1%
	Pacific Cod	2.0%	1.2%	0.6%	0.4%	0.4%	0.4%	1.2%	0.4%	0.9%	3.2%	1.0%
	Halibut	9.4%	4.2%	6.4%	8.0%	6.9%	10.8%	15.0%	10.8%	12.8%	0.0%	8.5%
	Sablefish	6.9%	5.5%	6.4%	8.4%	10.5%	12.1%	13.6%	9.7%	7.1%	17.3%	9.1%
	Other Groundfish	0.8%	0.4%	0.3%	0.4%	0.4%	0.5%	0.6%	0.6%	0.5%	0.8%	0.5%
	All Other Fisheries	5.3%	4.4%	4.9%	4.5%	7.6%	11.9%	5.7%	5.6%	5.3%	7.0%	6.1%
	Non-Commercial	1.5%	1.9%	1.8%	2.7%	2.9%	4.2%	4.2%	6.4%	5.9%	9.1%	3.6%
	Total of All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
TOTAL	All 9 PMA Crab Species	31.1%	23.6%	30.5%	25.7%	20.5%	16.8%	17.4%	25.3%	24.6%	15.5%	23.4%
	All Non-PMA Crab	2.4%	1.7%	1.8%	2.3%	3.0%	1.8%	2.3%	1.5%	1.5%	2.6%	2.1%
	Salmon	34.0%	48.1%	41.9%	42.7%	43.2%	39.7%	32.4%	34.7%	34.8%	34.2%	39.2%
	Pollock	6.0%	9.8%	6.9%	7.4%	8.3%	7.9%	11.6%	9.5%	10.1%	19.8%	9.4%
	Pacific Cod	5.1%	3.0%	2.8%	2.3%	3.8%	4.9%	6.5%	5.2%	6.1%	10.3%	4.8%
	Halibut	10.1%	4.1%	6.0%	7.7%	6.3%	9.0%	13.0%	9.1%	10.9%	0.0%	7.6%
	Sablefish	5.5%	4.4%	4.8%	6.0%	7.3%	8.2%	9.0%	6.4%	4.7%	9.2%	6.4%
	Other Groundfish	0.9%	0.6%	0.6%	0.6%	0.7%	1.1%	1.2%	0.8%	0.5%	1.1%	0.8%
	All Other Fisheries	4.0%	3.5%	3.6%	3.1%	5.0%	7.9%	3.6%	3.4%	2.9%	3.1%	4.0%
	Non-Commercial	0.9%	1.1%	1.1%	2.0%	1.9%	2.7%	3.1%	4.1%	3.9%	4.3%	2.4%
	Total of All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Location information is best for shoreplants and unreliable for all other processors. Thus, only Kodiak, Unalaska, and "Other South" can be addressed with this data.
"Other" includes processors identified as in the Northern region, catcher processors and floaters without a geographic designation (most of them), and other unknowns.
"Non-commercial" harvest includes forfeited bycatch, test fisheries, CDQ, and other such classifications
PMA Crab includes both qualified and non-qualified landings by catcher vessels

Source: Summarized from the NPFMC Bering Sea Crab Data Base/2001_1.

Table A3-41. Value of Processing by Place of Operation and Fishery Category, by Year (1991-2000) as Percentage of Total Annual Processing of all Locations Combined

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Kodiak	All 9 PMA Crab Species	1.5%	1.5%	1.5%	1.2%	1.4%	1.7%	0.9%	0.5%	1.3%	5.9%	1.6%
	All Non-PMA Crab	22.3%	33.1%	23.1%	14.5%	3.0%	5.2%	7.2%	5.7%	5.4%	2.2%	12.4%
	Salmon	8.5%	5.7%	7.4%	4.2%	8.9%	5.9%	6.0%	10.0%	7.6%	7.5%	7.0%
	Pollock	14.1%	12.2%	16.6%	15.3%	7.3%	6.0%	8.7%	15.6%	11.3%	8.3%	11.1%
	Pacific Cod	31.0%	30.6%	30.5%	24.8%	36.0%	23.3%	28.9%	33.6%	37.6%	30.6%	31.1%
	Halibut	22.5%	22.4%	19.5%	19.9%	21.1%	19.6%	20.0%	15.0%	14.8%	97.6%	19.2%
	Sablefish	13.9%	14.3%	14.1%	13.0%	9.2%	12.4%	10.8%	10.9%	10.9%	9.8%	11.8%
	Other Groundfish	24.7%	44.8%	53.4%	31.4%	37.4%	51.3%	47.3%	51.3%	44.6%	57.5%	44.3%
	All Other Fisheries	8.3%	4.8%	7.5%	5.9%	5.5%	6.7%	4.1%	3.3%	2.7%	3.5%	5.6%
	Non-Commercial	2.3%	3.0%	1.5%	6.6%	2.0%	2.2%	0.7%	2.2%	2.1%	4.4%	2.7%
	Total of All Fisheries	9.9%	7.8%	8.4%	7.0%	8.8%	8.2%	9.5%	9.6%	9.0%	10.2%	8.7%
Unalaska	All 9 PMA Crab Species	22.9%	23.2%	23.3%	22.9%	28.5%	34.6%	32.5%	33.3%	32.1%	38.0%	27.6%
	All Non-PMA Crab	3.1%	8.5%	13.9%	19.5%	19.1%	12.0%	8.4%	3.0%	6.1%	2.6%	10.7%
	Salmon	1.4%	1.3%	2.4%	2.7%	1.7%	1.8%	1.1%	1.6%	1.7%	1.4%	1.7%
	Pollock	63.3%	66.2%	64.3%	61.7%	61.9%	58.9%	59.7%	58.1%	57.3%	55.0%	60.3%
	Pacific Cod	15.4%	10.1%	15.8%	30.0%	26.7%	31.0%	20.6%	17.9%	13.5%	20.3%	19.7%
	Halibut	4.8%	4.7%	7.5%	6.2%	8.5%	4.3%	7.8%	3.4%	7.9%	2.4%	6.3%
	Sablefish	4.8%	6.5%	2.9%	2.2%	6.3%	3.5%	4.0%	2.2%	2.6%	3.6%	4.0%
	Other Groundfish	18.5%	11.9%	11.2%	25.8%	21.8%	8.8%	20.0%	4.1%	5.8%	7.6%	13.9%
	All Other Fisheries	2.0%	0.6%	3.1%	3.6%	2.3%	3.3%	1.1%	1.5%	1.7%	1.1%	2.2%
	Non-Commercial	0.6%	0.0%	0.1%	0.1%	2.4%	10.1%	10.2%	9.7%	12.6%	1.4%	6.2%
	Total of All Fisheries	13.3%	13.6%	14.0%	13.7%	14.6%	14.3%	16.4%	16.4%	16.7%	19.9%	15.1%
Other South	All 9 PMA Crab Species	10.1%	12.3%	11.0%	10.5%	8.4%	12.5%	11.0%	10.9%	12.3%	22.7%	11.5%
	All Non-PMA Crab	8.2%	6.5%	8.4%	6.6%	3.1%	4.6%	0.5%	0.1%	0.1%	5.9%	4.7%
	Salmon	33.8%	34.4%	32.8%	35.0%	38.9%	40.8%	32.6%	35.4%	40.1%	40.0%	36.3%
	Pollock	22.5%	17.9%	19.0%	23.0%	30.8%	35.0%	30.7%	24.8%	30.9%	36.6%	27.7%
	Pacific Cod	32.2%	38.7%	42.5%	36.4%	31.3%	41.2%	40.7%	44.7%	42.2%	36.7%	38.6%
	Halibut	21.0%	18.0%	13.2%	14.8%	13.6%	15.3%	11.8%	21.1%	21.2%	0.0%	16.8%
	Sablefish	11.7%	12.2%	8.2%	6.1%	10.5%	8.5%	6.5%	10.2%	14.0%	11.9%	9.8%
	Other Groundfish	2.4%	3.9%	4.2%	5.4%	9.1%	17.1%	3.8%	5.2%	6.3%	4.7%	6.5%
	All Other Fisheries	17.4%	27.4%	12.4%	8.5%	13.9%	13.9%	11.5%	10.8%	7.6%	4.7%	13.7%
	Non-Commercial	6.3%	8.0%	8.1%	17.9%	16.5%	7.5%	18.2%	9.2%	12.2%	8.9%	11.8%
	Total of All Fisheries	21.4%	24.9%	21.5%	22.5%	25.1%	26.8%	21.8%	23.1%	26.4%	30.0%	24.2%
Other	All 9 PMA Crab Species	65.4%	63.0%	64.1%	65.4%	61.6%	51.3%	55.5%	55.2%	54.3%	33.4%	59.2%
	All Non-PMA Crab	66.4%	51.9%	54.7%	59.4%	74.8%	78.1%	83.8%	91.1%	88.4%	89.3%	72.3%
	Salmon	56.3%	58.6%	57.4%	58.1%	50.6%	51.5%	60.2%	53.0%	50.6%	51.1%	55.0%
	Pollock	0.1%	3.7%	0.0%	0.0%	0.0%	0.0%	0.9%	1.6%	0.5%	0.1%	0.8%
	Pacific Cod	21.4%	20.7%	11.2%	8.9%	6.0%	4.6%	9.8%	3.8%	6.7%	12.3%	10.6%
	Halibut	51.8%	54.9%	59.8%	59.0%	56.8%	60.8%	60.4%	60.6%	56.0%	0.0%	57.7%
	Sablefish	69.6%	67.0%	74.8%	78.6%	74.1%	75.5%	78.7%	76.7%	72.4%	74.7%	74.5%
	Other Groundfish	54.4%	39.4%	31.1%	37.4%	31.7%	22.8%	28.9%	39.3%	43.4%	30.2%	35.3%
	All Other Fisheries	72.3%	67.1%	77.0%	82.0%	78.3%	76.1%	83.3%	84.4%	88.1%	90.7%	78.5%
	Non-Commercial	90.8%	88.9%	90.4%	75.4%	79.2%	80.2%	70.9%	78.9%	73.1%	85.3%	79.2%
	Total of All Fisheries	55.4%	53.7%	56.0%	56.8%	51.6%	50.8%	52.3%	50.9%	47.8%	39.9%	51.9%

City	Fishery Category	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
TOTAL	All 9 PMA Crab Species	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All Non-PMA Crab	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Salmon	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Pollock	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Pacific Cod	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Halibut	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Sablefish	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Other Groundfish	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	All Other Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Non-Commercial	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	Total of All Fisheries	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notes: Location information is best for shoreplants and unreliable for all other processors. Thus, only Kodiak, Unalaska, and "Other South" can be addressed with this data.
"Other" includes processors identified as in the Northern region, catcher processors and floaters without a geographic designation (most of them), and other unknowns.
"Non-commercial" harvest includes forfeited bycatch, test fisheries, CDQ, and other such classifications
PMA Crab includes both qualified and non-qualified landings by catcher vessels

Source: Summarized from the NPFMC Bering Sea Crab Data Base/2001_1.

Series 7: Catcher Processor Ownership Location and Value Data

Table A3-42 enumerates catcher processors by PMA crab fishery and year. It also serves to determine confidentiality for the next three tables. Of most significance is that catcher processor information can only be discussed in quantitative terms for Bristol Bay red, Bering Sea opilio, and Bering Sea tanner crab. It should also be noted that the physical number of catcher processors has decreased dramatically since the early 1990s. Not shown in the table, but also significant, is that ownership for catcher processor is concentrated in the Seattle-Tacoma CMSA, with no other named locality having residents who own three or more catcher processors.

Table A3-43 displays the value of the PMA crab harvest for catcher processors, by fishery and year. These data show that there is a general downward trend over the 1991-2000 time period.

Table A3-44 displays the value of the PMA harvest for catcher processors, by fishery and year, as a percent of the total PMA harvest (all nine fisheries) for catcher processors. Note that opilio increased steadily until 1998 and 1999, when Bristol Bay red king crab increased sharply. These two species are now the predominant PMA fisheries for those catcher processors whose harvest can be discussed in quantitative terms. Catcher processors are quite important in some of the other, lower-volume, PMA fisheries, but confidentiality requirements preclude their discussion here.

Table A3-45 displays the value of the PMA harvest for catcher processors, by fishery and year, as a percent of the total PMA harvest (all nine fisheries) for all processors combined. Of note is the steady decline, which may be related to the decreasing number of catcher processors.

Table A3-42. Number of Catcher Processors with PMA Crab Landings by Fishery and Year, 1991-2000

Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Adak Brown	6	5	3	1	2	1	3	1	1	1	2.4
Adak Red	4	2	1	2	1						2.0
Bristol Bay Red	22	15	13			4	8	10	8	6	10.8
Bering Sea Opilio	22	27	23	20	15	12	12	11	9	9	16.0
Bering Sea Tanner	25	28	19	9	9	4					15.7
Dutch Harbor Brown	5	5	1		1		2	1	1		2.3
Pribilof Blue					1						1.0
Pribilof Red			2								2.0
St. Matthews Blue	9	7	3	6	1	3	1	2			4.0
Totals	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note: Shaded cells values cannot be disclosed in analogous volume or value tables.
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-43. Value of Harvest for Catcher Processors by PMA Crab Fishery and Year, 1991-2000

Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
Adak Brown	$7,087,115	$5,604,102	*	*	*	*	*	*	*	*	*
Adak Red	$2,562,520	$2,493,641	*	*	*						*
Bristol Bay Red	$8,680,406	$3,924,281	$5,446,328			$1,701,749	$997,216	$3,912,152	$5,837,136	$1,412,391	$31,911,659
Bering Sea Opilio	$34,111,279	$27,853,677	$31,579,457	$31,697,955	$19,234,735	$14,847,802	$9,767,695	$9,210,430	$9,868,184	$3,578,005	$191,749,219
Bering Sea Tanner	$10,348,247	$8,683,401	$4,765,715	$2,830,811	$1,073,236	$86,442					$27,787,852
Dutch Harbor Brown	$2,296,534	$2,238,788	*		*		*	*	*		*
Pribilof Blue					*						*
Pribilof Red			*								*
St. Matthews Blue	$2,506,111	$1,130,176	*	*	*	*	*	*			*
Total for CPs	$67,592,213	$51,928,066	$46,208,294	$39,248,833	$24,282,631	$18,391,479	$13,804,244	$16,141,875	*	*	$277,597,635
Total for All Processors	$305,695,929	$289,853,730	$304,538,220	$283,488,574	$221,109,681	$154,074,142	$147,820,510	$191,024,760	$264,003,323	$111,690,223	$2,273,299,091

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-44. Value of Harvest for Catcher Processors by PMA Crab Fishery and Year, 1991-2000 as Percentage of Total Catcher Processor PMA Harvest Value in Each Year

Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Annual Average
Adak Brown	10.5%	10.8%	*	*	*	*	*	*	*	*	*
Adak Red	3.8%	4.8%	*	*	*						*
Bristol Bay Red	12.8%	7.6%	11.8%			9.3%	7.2%	24.2%	*	*	11.5%
Bering Sea Opilio	50.5%	53.6%	68.3%	80.8%	79.2%	80.7%	70.8%	57.1%	*	*	69.1%
Bering Sea Tanner	15.3%	16.7%	10.3%	7.2%	4.4%	0.5%					10.0%
Dutch Harbor Brown	3.4%	4.3%	*		*		*	*	*		*
Pribilof Blue					*						*
Pribilof Red			*								*
St. Matthews Blue	3.7%	2.2%	*	*	*	*	*	*			*
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Table A3-45. Value of Harvest for Catcher Processors by PMA Crab Fishery and Year, 1991-2000 as Percentage of Total Processor PMA Harvest Value (All Processing Sectors Combined)

Fishery	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Annual Average
Adak Brown	2.3%	1.9%	*	*	*	*	*	*	*	*	*
Adak Red	0.8%	0.9%	*	*	*						*
Bristol Bay Red	2.8%	1.4%	1.8%			1.1%	0.7%	2.0%	*	*	1.4%
Bering Sea Opilio	11.2%	9.6%	10.4%	11.2%	8.7%	9.6%	6.6%	4.8%	*	*	8.4%
Bering Sea Tanner	3.4%	3.0%	1.6%	1.0%	0.5%	0.1%					1.2%
Dutch Harbor Brown	0.8%	0.8%	*		*		*	*	*		*
Pribilof Blue					*						*
Pribilof Red			*								*
St. Matthews Blue	0.8%	0.4%	*	*	*	*	*	*			*

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1

Series 8: Harvest Allocation Information, Rationalization Alternatives

The next group of tables presents information on the allocation of harvester quota, by fishery and community of residence of vessel owner. This is the same information as presented in Section 4.6.5 in the main body of the EIS, only rearranged with fishery as the main category rather than community. Tables are:

- Table A3-46 enumerates the number of harvest vessels in each relevant BSAI crab fishery owned by residents of each named community that would be allocated quota share under these alternatives. In addition, the average number of vessels in each category owned by residents of each named community for the period 1991-2000 is presented as a baseline measure. The average, of course, includes some vessels with only non-qualified crab landings, while all vessels that would receive allocations are by definition "qualified." Also, since for some BSAI crab fisheries allocations are based on participation in BSAI crab fisheries other than the one for which the allocation is received, and because consistency of participation patterns varies from fishery to fishery, "baseline" averages can be less than the number of vessels receiving allocations in any given fishery. This table also serves to denote confidentiality concerns for the next two tables.

- Table A3-47 aggregates the proposed BSAI crab fishery allocations under the rationalization alternatives for each relevant fishery and ownership from named communities. In addition, average harvest (in terms of both pounds and value) for vessels owned by residents of each named community for the period 1991-2000 is presented as a baseline measure.

- Table A3-48 presents the change between the historical harvest baseline measure (average percent of the total relevant individual BSAI crab fishery harvested 1991-2000) compared to the allocations for each crab fishery and named community. The change is presented in terms of percent change from the historical baseline measure.

Table A3-46. Count of Vessels Allocated BSAI Crab Quota, by Fishery and Community, under the Rationalization Alternatives

Fishery	State	City	Number of Harvest Vessels Annual Average, 1991-2000		Number of Harvest Vessels Qualifying Under the Rationalization Alternatives
			Vessels with "Qualified" BSAI Crab Landings	All Vessels with BSAI Crab Landings	
ADK_BRN	Alaska	Anchorage	1	1	1
		Kodiak	2	2	2
		Other Alaska	1	1	0
	Oregon	Newport	1	2	1
	Washington	Other Washington	0	1	0
		S-T CMSA	6	9	7
ADK_BRN Total			9	15	11
ADK_RED	Alaska	Anchorage	0	0	1
		Kodiak	2	2	5
		Other Alaska	0	1	0
	Oregon	Newport	1	1	2
	Other States	Other States	0	0	2
	Washington	Other Washington	1	1	2
		S-T CMSA	4	5	16
ADK_RED Total			8	10	28
BB_RED	Alaska	Anchorage	5	6	6
		Homer	8	9	7
		King Cove/Sand Point	6	7	5
		Kodiak	36	44	36
		Other Alaska	12	16	12
	Oregon	Newport	9	9	11
		Other Oregon	5	6	4
	Other States	Other States	3	5	6
	Washington	Other Washington	10	13	9
		S-T CMSA	134	146	158
BB_RED Total			227	261	254
BS_OPIE	Alaska	Anchorage	6	6	6
		Homer	8	8	8
		King Cove/Sand Point	5	5	5
		Kodiak	32	38	36
		Other Alaska	12	15	13
	Oregon	Newport	8	8	11
		Other Oregon	4	5	5
	Other States	Other States	4	5	6
	Washington	Other Washington	10	12	8
		S-T CMSA	126	138	147
BS_OPIE Total			213	241	245
BS_TANN	Alaska	Anchorage	5	5	6
		Homer	8	9	8
		King Cove/Sand Point	6	6	5
		Kodiak	35	44	36
		Other Alaska	10	13	13
	Oregon	Newport	8	9	12
		Other Oregon	6	7	5
	Other States	Other States	3	4	6
	Washington	Other Washington	9	12	9
		S-T CMSA	125	139	166
BS_TANN Total			214	248	266
DUT_BRN	Alaska	Anchorage	1	1	1
		Kodiak	1	1	2
		Other Alaska	1	1	0
	Oregon	Newport	1	1	1
	Washington	Other Washington	0	1	0
		S-T CMSA	6	11	8
DUT_BRN Total			9	15	12
PRB_RAB	Alaska	Anchorage	2	3	1
		Homer	5	5	7
		King Cove/Sand Point	3	9	5
		Kodiak	7	11	15
		Other Alaska	5	8	7

Fishery	State	City	Number of Harvest Vessels Annual Average, 1991-2000		Number of Harvest Vessels Qualifying Under the Rationalization Alternatives
			Vessels with "Qualified" BSAI Crab Landings	All Vessels with BSAI Crab Landings	
	Oregon	Newport	4	4	5
		Other Oregon	1	1	2
	Other States	Other States	4	4	5
	Washington	Other Washington	3	5	2
		S-T CMSA	31	36	61
PRB_RAB Total			63	85	110
STM_BLU	Alaska	Anchorage	2	2	2
		Homer	2	2	2
		King Cove/Sand Point	3	4	4
		Kodiak	18	23	22
		Other Alaska	4	5	5
	Oregon	Newport	2	2	3
		Other Oregon	2	3	3
	Other States	Other States	2	5	5
	Washington	Other Washington	3	5	3
		S-T CMSA	56	64	89
STM_BLU Total			93	110	138

Notes: Not all communities with historical harvest (1991-2000) were issued allocations under the rationalization alternatives
Ownership information for allocations based on ownership of vessel during most recent relevant BSAI crab activity
Ownership information for average harvest 1991-2000 based on ownership of vessel during year of harvest
Average vessel numbers for individual fisheries calculated using only years each such fishery was open.
"PRB_RAB" signifies the Pribilof red king crab and Pribilof blue king crab fisheries combined. While managed as separate fisheries under existing conditions, these are combined under the proposed rationalization alternatives.
Shaded cells are suppressed in subsequent harvest tables due to confidentiality restrictions
Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1 and Allocation File

Table A3-47. Summary of Allocations by Fishery and Community, as Percentage of Total Allocated Quota, for the Rationalization Alternatives

Fishery	State	City	Percent of Total Harvest by Value (dollars) 1991-2000	Percent of Total Harvest by Volume (lbs) 1991-2000	Percent of Total Harvest Quota (Volume) Allocated under the Rationalization Alternatives
ADK_BRN	Alaska	Anchorage	*	*	*
		Kodiak	*	*	*
		Other Alaska	*	*	*
	Oregon	Newport	*	*	*
	Washington	Other Washington	*	*	*
		S-T CMSA	40.90%	40.54%	21.92%
ADK_BRN Total			100.00%	100.00%	100.00%
ADK_RED	Alaska	Anchorage	*	*	*
		Kodiak	*	*	48.95%
		Other Alaska	*	*	*
	Oregon	Newport	*	*	*
	Other States	Other States	*	*	*
	Washington	Other Washington	*	*	*
		S-T CMSA	25.96%	26.51%	11.90%
ADK_RED Total			100.00%	100.00%	100.00%
BB_RED	Alaska	Anchorage	2.31%	2.27%	2.44%
		Homer	3.26%	3.16%	3.58%
		King Cove/Sand Point	2.19%	2.18%	1.67%
		Kodiak	14.65%	14.50%	13.00%
		Other Alaska	4.44%	4.55%	3.29%
	Oregon	Newport	4.10%	4.26%	4.45%
		Other Oregon	2.17%	2.11%	1.55%
	Other States	Other States	1.45%	1.36%	2.02%
	Washington	Other Washington	4.35%	4.40%	3.83%
		S-T CMSA	61.09%	61.22%	64.16%
BB_RED Total			100.00%	100.00%	100.00%
BS_OPIE	Alaska	Anchorage	1.79%	1.57%	2.43%
		Homer	2.63%	2.54%	3.03%
		King Cove/Sand Point	1.91%	1.89%	1.09%
		Kodiak	14.17%	14.51%	13.64%
		Other Alaska	4.35%	4.33%	4.21%
	Oregon	Newport	3.63%	3.55%	4.06%
		Other Oregon	1.86%	1.74%	1.96%
	Other States	Other States	1.64%	1.48%	2.95%
	Washington	Other Washington	4.53%	4.26%	3.85%
		S-T CMSA	63.49%	64.13%	62.78%
BS_OPIE Total			100.00%	100.00%	100.00%
BS_TANN	Alaska	Anchorage	1.03%	0.97%	1.55%
		Homer	2.94%	2.76%	3.06%
		King Cove/Sand Point	2.05%	1.90%	1.18%
		Kodiak	17.18%	17.49%	14.52%
		Other Alaska	3.28%	3.30%	2.84%
	Oregon	Newport	3.54%	3.15%	4.40%
		Other Oregon	2.45%	2.37%	2.01%
	Other States	Other States	0.96%	0.86%	2.25%
	Washington	Other Washington	3.66%	3.62%	3.15%
		S-T CMSA	62.91%	63.57%	65.04%
BS_TANN Total			100.00%	100.00%	100.00%
DUT_BRN	Alaska	Anchorage	*	*	*
		Kodiak	*	*	*
		Other Alaska	*	*	*
	Oregon	Newport	*	*	*
	Washington	Other Washington	*	*	*
		S-T CMSA	67.69%	68.97%	63.43%
DUT_BRN Total			100.00%	100.00%	100.00%
PRB_RAB	Alaska	Anchorage	2.61%	2.75%	*
		Homer	5.52%	6.31%	11.37%
		King Cove/Sand Point	7.54%	6.58%	2.04%
		Kodiak	10.57%	10.40%	10.81%
		Other Alaska	8.10%	8.40%	6.89%
	Oregon	Newport	6.19%	6.56%	9.07%
		Other Oregon	*	*	*
	Other States	Other States	2.88%	3.46%	5.11%

Fishery	State	City	Percent of Total Harvest by Value (dollars) 1991-2000	Percent of Total Harvest by Volume (lbs) 1991-2000	Percent of Total Harvest Quota (Volume) Allocated under the Rationalization Alternatives
	Washington	Other Washington	5.08%	5.07%	*
		S-T CMSA	50.17%	49.39%	50.68%
PRB_RAB Total			100.00%	100.00%	100.00%
STM_BLU	Alaska	Anchorage	*	*	*
		Homer	*	*	*
		King Cove/Sand Point	2.59%	2.78%	2.13%
		Kodiak	20.47%	20.65%	18.02%
		Other Alaska	2.95%	2.98%	3.64%
	Oregon	Newport	*	*	*
		Other Oregon	*	*	*
	Other States	Other States	1.21%	1.13%	2.50%
	Washington	Other Washington	3.45%	3.73%	*
		S-T CMSA	61.98%	61.02%	63.27%
STM_BLU Total			100.00%	100.00%	100.00%

Notes: Not all communities with historical harvest (1991-2000) were issued allocations under the rationalization alternatives
Ownership information for allocation based on ownership of vessel during the most recent relevant BSAI crab fishery activity
Ownership information for average harvest 1991-2000 based on ownership of vessel during year of harvest
Averages based on ten years, even for those fisheries not open all ten years
"PRB_RAB" signifies the Pribilof red king crab and Pribilof blue king crab fisheries combined. While managed as separate fisheries under existing conditions, these are combined under the proposed rationalization alternatives.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1 and Allocation File

Table A3-48. Summary of Allocations by Fishery and Community, as a Percent Change from Average Annual Pounds Harvested (1991-2000), for the Rationalization Alternatives

Fishery	State	City	Percent of Total Harvest by Volume (lbs) 1991-2000	Percent of Total Harvest by Value (dollars) 1991-2000	Percent Harvest Volume Change From 1991-2000 Average Under Rationalization Alternatives
ADK_BRN	Alaska	Anchorage	*	*	*
		Kodiak	*	*	*
		Other Alaska	*	*	*
	Oregon	Newport	*	*	*
	Washington	Other Washington	*	*	*
		S-T CMSA	40.90%	40.54%	-45.93%
ADK_RED	Alaska	Anchorage	*	*	*
		Kodiak	*	*	*
		Other Alaska	*	*	*
	Oregon	Newport	*	*	*
	Other States	Other States	*	*	*
	Washington	Other Washington	*	*	*
		S-T CMSA	25.96%	26.51%	-55.11%
BB_RED	Alaska	Anchorage	2.31%	2.27%	7.49%
		Homer	3.26%	3.16%	13.29%
		King Cove/Sand Point	2.19%	2.18%	-23.39%
		Kodiak	14.65%	14.50%	-10.34%
		Other Alaska	4.44%	4.55%	-27.69%
	Oregon	Newport	4.10%	4.26%	446%
		Other Oregon	2.17%	2.11%	-26.54%
	Other States	Other States	1.45%	1.36%	48.53%
	Washington	Other Washington	4.35%	4.40%	-12.95%
		S-T CMSA	61.09%	61.22%	4.80%
BS_OPIE	Alaska	Anchorage	1.79%	1.57%	54.78%
		Homer	2.63%	2.54%	19.29%
		King Cove/Sand Point	1.91%	1.89%	-42.33%
		Kodiak	14.17%	14.51%	-6.00%
		Other Alaska	4.35%	4.33%	-2.77%
	Oregon	Newport	3.63%	3.55%	14.37%
		Other Oregon	1.86%	1.74%	12.64%
	Other States	Other States	1.64%	1.48%	99.32%
	Washington	Other Washington	4.53%	4.26%	-9.62%
		S-T CMSA	63.49%	64.13%	-2.11%
BS_TANN	Alaska	Anchorage	1.03%	0.97%	59.79%
		Homer	2.94%	2.76%	10.87%
		King Cove/Sand Point	2.05%	1.90%	-37.89%
		Kodiak	17.18%	17.49%	-16.96%
		Other Alaska	3.28%	3.30%	-13.94%
	Oregon	Newport	3.54%	3.15%	39.68%
		Other Oregon	2.45%	2.37%	-15.19%
	Other States	Other States	0.96%	0.86%	161.63%
	Washington	Other Washington	3.66%	3.62%	-12.98%
		S-T CMSA	62.91%	63.57%	2.31%
DUT_BRN	Alaska	Anchorage	*	*	*
		Kodiak	*	*	*
		Other Alaska	*	*	*
	Oregon	Newport	*	*	*
	Washington	Other Washington	*	*	*
		S-T CMSA	67.69%	68.97%	-8.03%
PRB_RAB	Alaska	Anchorage	2.61%	2.75%	*
		Homer	5.52%	6.31%	80.19%
		King Cove/Sand Point	7.54%	6.58%	-69.00%
		Kodiak	10.57%	10.40%	3.94%
		Other Alaska	8.10%	8.40%	-17.98%
	Oregon	Newport	6.19%	6.56%	38.26%
		Other Oregon	*	*	*
	Other States	Other States	2.88%	3.46%	47.69%
	Washington	Other Washington	5.08%	5.07%	*
		S-T CMSA	50.17%	49.39%	2.61%
STM_BLU	Alaska	Anchorage	*	*	*
		Homer	*	*	*
		King Cove/Sand Point	2.59%	2.78%	-23.38%
		Kodiak	20.47%	20.65%	-12.74%
		Other Alaska	2.95%	2.98%	22.15%

Fishery	State	City	Percent of Total Harvest by Volume (lbs) 1991-2000	Percent of Total Harvest by Value (dollars) 1991-2000	Percent Harvest Volume Change From 1991-2000 Average Under Rationalization Alternatives
	Oregon	Newport	*	*	*
		Other Oregon	*	*	*
	Other States	Other States	1.21%	1.13%	121.24%
	Washington	Other Washington	3.45%	3.73%	*
		S-T CMSA	61.98%	61.02%	3.69%

Notes: Not all communities with historical harvest (1991-2000) were issued allocations under the rationalization alternatives
Ownership information for allocation based on ownership of vessel during the most recent relevant BSAI crab fishery activity
Ownership information for average harvest 1991-2000 based on ownership of vessel during year of harvest
Averages based on ten years, even for those fisheries not open all ten years
"PRB_RAB" signifies the Pribilof red king crab and Pribilof blue king crab fisheries combined. While managed as separate fisheries under existing conditions, these are combined under the proposed rationalization alternatives.

Source: Summarized from the NPFMC Bering Sea Crab Data Base / 2001_1 and Allocation File

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