Summary of Changes, Crab Rationalization 3-year Review Appendix A: Social Impact Assessment	
Page No.	**Change**
Title page and page footers (all other pages)	September 2008 changed to November 2008
Page 1-1	Section 1.1 – Comprehensive footnote added to explain methodological approach and caveats associated with linking vessels to communities based on ownership address for the purposes of the SIA analysis.
Page 1-9	Section 1.2.4 – Clarification/correction made regarding annual average processor participation in King Cove.
Page 1-33 & Page 1-34	Section 1.3.8 – Footnotes added regarding APICDA obtaining PQS associated with St. George.
Page 1-37	Section 1.3.10 – Noted added on Deep Sea Fishermen's Union.
Page 1-38	Section 1.4 – Clarification on crew study added.
Page 2-38 & Page 2-41	Section 2.1.3.3 – Information added/updated on Alaska Ship Supply.
Pages 2-79 to 2-83	Section 2.2.3.1 – Information added/updated on Trident delivering fleet, processing, and community interactions.
Pages A2-1 to A3-3	Attachment 2 and Attachment 3 order reversed.
Various	Minor typographical and formatting errors corrected.

APPENDIX A

BSAI CRAB RATIONALIZATION 3-YEAR REVIEW
DRAFT SOCIAL IMPACT ASSESSMENT

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CHAPTER 1.0
INTRODUCTION AND SUMMARY OF FINDINGS

1.1 OVERVIEW AND APPROACH

For the purposes of this social impact assessment, a two-pronged approach to analyzing the community or regional components of changes associated with the implementation of Bering Sea and Aleutian Islands (BSAI) crab rationalization was utilized. First, tables based on existing quantitative fishery information were developed to identify patterns of participation in the various components of the fishery. These tables, presenting data on an annual basis from 1998 through 2007, are quite large and are presented in Attachment 1. Summary tables are presented in Section 1.2 along with accompanying narrative. This analysis focuses on fishery sectors (harvesters, catcher processors, and processors) and contrasts average annual participation indictors for pre- and post-rationalization implementation years over the span of 1998 through 2006–2007.[1] There are, however, substantial limitations on the data that can be utilized for these

[1] Within the quantitative data, for the purposes of this analysis, assignment of harvest vessels and catcher/processors to a region or community has been made based upon ownership address information as listed in CFEC vessel registration files or NOAA Fisheries federal permit data. As a result, some caution in the interpretation of this information is warranted. It is not unusual for vessels to have complex ownership structures involving more than one entity in more than one region. Further, ownership location does not directly indicate where a vessel spends most of its time, purchases services, or hires its crew as, for example, some of the vessels owned by residents of the Pacific Northwest spend a great deal of time in Alaska ports and hire at least a few crew members from these ports. The region or community of ownership, however, does provide a rough indicator of the direction or nature of ownership ties (and a proxy for associated economic activity, as no existing datasets provide information on where crab vessel earnings are spent), especially when patterns are viewed at the sector or vessel class level.

Ownership location has further been chosen for this social impact assessment analysis as the link of vessels to communities rather than other indicators, such as vessel homeport information, for several reasons. Primary among these are (1) a desired consistency with the ownership location-based analysis that was done in the pre-implementation community and social impact assessment (NOAA 2004) to facilitate pre-and post-implementation BSAI crab rationalization impact analysis comparisons and (2) the same reason(s) that led to the selection of ownership rather than homeport data for use in the original pre-implementation social impact assessment in the first place: the apparent inconsistencies in homeport designation by vessels that appear to correspond at times with ownership location, at times with where the vessel spends most of its fishing year, and at times with neither. Additionally, in some instances homeport information is particularly problematic for BSAI crab fishery related social impact analysis. One example is Juneau, where (a) no BSAI crab vessel ownership is apparent for any of the years 1998-2007 in the BSAI crab data set, (b) BSAI crab landings by Juneau homeported vessels are substantial at least in some years, and (c) BSAI crab landings and related activities have not occurred in Juneau itself, such that it is not clear how these activities link back to Juneau in the absence of ownership or direct activity ties. A second example is King Cove, where, in a very different pattern, no BSAI crab vessels show up in the BSAI crab data set as being homeported in the community during 1998-2007, but it is known that both locally owned BSAI crab vessels and at least a few BSAI crab vessels with Pacific Northwest ownership spent considerable time in the port, hired local crew, and effectively operated out of the community for extended periods of time.

For shoreplants, regional or community designation was based on the location of the plant itself (rather than ownership address) in order to provide a relative indicator of the local volume of fishery related economic activity, which can also serve as a rough proxy for the relative level of associated employment and local government revenues. This is also consistent with the methodology utilized in the BSAI crab rationalization pre-implementation social impact assessment, although in the case of the pre-implementation work, more information was available on the location of floating processors for at least a few of the communities. The lack of operating location information for floating processors is a known shortcoming in the available BSAI crab data.

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 impacts of the rationalization program. In short, the frame of reference or unit of analysis for the discussion in this section is the individual sector, and the analysis looks at how pre- and post-rationalization changes are differentially distributed across communities and regions within this framework. The practicalities of data limitations, however, serve to restrict this discussion. This discussion is also supplemented with information on changes that have occurred in the geographic distribution of unique quota holders and quota units by sector between the initial allocation and the 2008/2009 seasons.

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 order of magnitude of social and community level impacts associated with 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. The total set of communities engaged in the fishery is numerous and far-flung. Communities (and types of 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, this second approach 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). 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 qualitatively explores the social and community impacts that have resulted from the rationalization-associated changes to the locally present sectors in combination with other community-specific attributes and socioeconomic characteristics.

Chosen for this community-level analysis were those Alaskan communities characterized in the pre-implementation BSAI crab rationalization social impact assessment. These are Unalaska/ Dutch Harbor, Akutan, King Cove, Kodiak, Sand Point, Adak, St. Paul, and St. George. A community-by-community summary of the social impacts of BSAI crab rationalization for each of these communities is presented in Section 1.3. This summary is derived from detailed community profiling efforts, the results of which are in part included in this analysis and in part included in another document incorporated by reference.

Pre-rationalization crab fishery-oriented profiles for each of these communities were developed for the *BSAI Crab Fisheries Final Environmental Impact Statement Social Impact Assessment* (NOAA 2004, Appendix 3[2]). Updated, detailed profiles with a focus on crab dependence and BSAI crab rationalization impacts are provided in this document for four of these communities. These are Unalaska/Dutch Harbor (Section 2.1), Akutan (Section 2,2), King Cove (Section 2.3), and Kodiak (Section 2.4). These profiles were updated through fieldwork and they explicitly build upon the profiles of these communities developed for (1) the pre-rationalization crab social

[2] Available at http://alaskafisheries.noaa.gov/sustainablefisheries/crab/eis/#final.

impact analysis referenced above and (2) those contained in *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak* (EDAW 2005). The latter of these profile efforts, also produced prior to the implementation of BSAI crab rationalization, was jointly funded by the North Pacific Fishery Management Council (NPFMC) and the North Pacific Research Board (NPRB). (A discussion of the methodology used to update these profiles may be found in Attachment 2.) In addition to the information that has been updated in this document, the most recent previous (EDAW 2005) profiles contain quantitative characterization of each of the community's local commercial fishing harvest sector, including detailed information on an annual basis, from 1995 through 2002, of local vessel characteristics, distribution of permit holders, catch and earnings estimates, and landings inside and outside of the community, along with an analysis of the spatial distribution of fishing effort of the local fleet. As updating this information is effort intensive and not central to the current BSAI crab rationalization 3-year review-oriented community analysis, it has not been updated in the community profiles included in this document, but this information is readily available[3] for review in the original document.

Updated, post-BSAI crab rationalization profiles for the other four communities central to the current analysis (Sand Point, Adak, St. Paul, and St. George) were completed in June 2008 under the title *Comprehensive Baseline Commercial Fishing Community Engagement and Dependency Profiles: Adak, St. George, St. Paul, and Sand Point, Alaska* (EDAW 2008). These profiles, funded by the NPFMC (Contract NEPA-1-06) and the NPRB (Project 640), explicitly built upon the community profiles contained in the *BSAI Crab Fisheries Final Environmental Impact Statement Social Impact Assessment* (NOAA 2004, Appendix 3), and contain, as part of the overall description of each commercial fishery-related sector in the community and where relevant, information on community-specific effects of crab rationalization. As these comprehensive profiles are readily available[4] for review, and have recently been distributed to the NPFMC at its constituent bodies, they are incorporated by reference rather than reproduced in this document.

1.2 QUANTITATIVE PARTICIPATION DESCRIPTION BY COMMUNITY

The data used to develop the tables in this section cover the span of years from 1998 through the 2006/2007 crab seasons and are derived from Alaska Department of Fish and Game (ADFG) fish ticket data and Alaska Commercial Fisheries Entry Commission (CFEC) gross revenues data. Following an introductory table in the first subsection below, the comparative information presented in this section is largely focused on the Bristol Bay red king crab and Bering Sea snow crab fisheries, as participation in the other rationalized BSAI crab fisheries was concentrated in a relatively few communities, and/or limited to a shorter span of years by fishery closures, as described in Section 1.3. For harvester data, pre-rationalization annual averages displayed in the tables in this section are based on annual data from 1998 through 2004 for the Bristol Bay red king crab fishery and from 1998 through 2005 Bering Sea snow crab fishery. Post-rationalization averages are based on annual data from the 2005/2006 and 2006/2007 seasonal data for both fisheries.

[3] Available at http://www.fakr.noaa.gov/npfmc/current_issues/crab/crabcoop.htm and then selecting Community Profiles 08/08 Volume 1: Unalaska, Akutan, King Cove, Kodiak.

[4] Available at http://www.fakr.noaa.gov/npfmc/current_issues/crab/crabcoop.htm and then selecting Community Profiles 08/08 Volume 2: Sand Point, Adak, St. Paul, St. George.

1.2.1 Harvest Trends by Crab Fishery

Table 1-1 displays information on overall harvest trends for catcher vessels within the rationalized crab fisheries on an annual average basis for the pre- and post-rationalization years covered by these data (1998–2007). The post-rationalization consolidation of the fleet is

Table 1-1. Harvest Averages by BSAI Crab Fishery, Pre- and Post-Rationalization

Fishery	1998–2004/05 Annual Average† (Pre-Rationalization)	2005/06–2006/07 Annual Average (Post-Rationalization)
Pounds		
Bristol Bay Red	11,165,019	15,266,528
Bering Sea Snow	72,912,463	32,954,553
Eastern Aleutian Golden	3,045,172	2,629,232
Western Aleutian Golden	**	**
Bering Tanner East	na	719,416
Bering Tanner West	na	625,014
Value		
Bristol Bay Red	$52,936,158	$61,625,275
Bering Sea Snow	$72,593,203	$42,705,762
Eastern Aleutian Golden	$9,318,065	$6,029,850
Western Aleutian Golden	**	**
Bering Tanner East	na	$1,007,068
Bering Tanner West	na	$882,910
Vessels		
Bristol Bay Red	249	85
Bering Sea Snow	206	74
Eastern Aleutian Golden	17	7
Western Aleutian Golden	8	3
Bering Tanner East	na	22
Bering Tanner West	na	40
Average Value per Pound		
Bristol Bay Red	$4.74	$4.04
Bering Sea Snow	$1.00	$1.30
Eastern Aleutian Golden	$3.06	$2.29
Western Aleutian Golden	**	**
Bering Tanner East	na	$1.40
Bering Tanner West	na	$1.41
Average Value per Vessel		
Bristol Bay Red	$212,230	$725,003
Bering Sea Snow	$353,252	$581,031
Eastern Aleutian Golden	$548,121	$927,669
Western Aleutian Golden	**	**
Bering Tanner East	na	$46,840
Bering Tanner West	na	$22,073

† Pre-rationalization averages include years through 2004 for the Bristol Bay red king crab and EAI golden king crab fisheries and through 2005 for the Bering Sea snow crab and WAI golden king crab fisheries.

**Computation suppressed due to confidentiality of primary data.

Source: Alaska Department of Fish and Game 2008; Alaska Commercial Fisheries Entry Commission 2008.

apparent for all four fisheries that were open prior to the implementation of rationalization, although the Eastern Aleutian Islands (EAI) golden king crab and Western Aleutian Island (WAI) golden king crab fisheries are far smaller, and much less important economically, than the Bristol Bay red king crab and Bering Sea snow crab fisheries, in terms of dollars and jobs generated. Also apparent from the table is the increase in average annual value of harvest per vessel post-rationalization compared to the average annual figure for the pre-rationalization years covered.

1.2.2 Local Community Fleet Participation

Table 1-2 provides information on the average annual distribution of the Bristol Bay red king crab and the Bering Sea snow crab fleets, by community, both pre- and post-rationalization (full distribution by community by year, in absolute and percentage terms, is shown in Tables A1-2a and A1-2b in Attachment 1). As shown, the annual average participation in the Bristol Bay red king crab fishery dropped from 244 vessels pre-rationalization to 82 vessels post-rationalization, while the analogous drop was from 200 to 70 vessels in the Bering Sea snow crab fishery. Within Alaska, while the fleet size in every subregion declined with rationalization, Kodiak had more vessels participating in both fisheries on an annual average, both pre- and post-rationalization, than all other communities in the state combined. Following rationalization, the percent vessels participating from Southeast and Aleutian region communities declined, while the percent of vessels participating from Kodiak and the South-Central region increased. Outside of Alaska, vessels owned by residents of the Seattle-Tacoma Consolidated Metropolitan Statistical Area (CMSA)[5] alone made up over half of the fleet (and vessels owned by Washington residents as a whole made up over 60 percent of the fleet) in both the Bristol Bay red king crab fishery and the Bering Sea snow crab fisheries both pre- and post-rationalization, although percentages declined slightly post-rationalization (both for the Seattle-Tacoma CMSA and Washington as a whole).

1.2.3 Catcher Vessel Crab Harvest Volume and Value by Community

Confidentiality restrictions effectively preclude the display of pre- and post-rationalization comparative harvest volume and value data for all communities and regions within Alaska except for Kodiak, due to the small number of vessels participating in the fisheries from most communities, particularly post-rationalization. Within Alaska but outside of Kodiak, totals could be shown for either all of Alaska exclusive of Kodiak (allowing a state total) or the South-Central region, but not both. The option allowing a state total was chosen to allow comparisons between vessels from different states. In the case of Washington communities, confidentiality restrictions allowed the display of data for vessels from the Seattle-Tacoma CMSA or all of Washington, but not both, due to the low number vessels participating in the post-rationalization Bering Sea snow crab fishery that are owned outside of Seattle. Again, the option that allowed a state total to be shown was selected. Table 1-3 displays catcher vessel average annual harvest by volume (absolute and percentage) both pre- and post-rationalization. Table 1-4 provides similar information for value of harvest. (Tables A1-3a, A1-3b, A1-4a, and A1-4b in Attachment 1 provide analogous information on a year-by-year basis.)

[5] The Seattle-Tacoma Consolidated Metropolitan Statistical Area is comprised of King, Pierce, and Snohomish counties.

Table 1-2. Bristol Bay Red King Crab and Bering Sea Snow Crab Vessel Count by Community, Annual Averages Pre- and Post-Rationalization

State	Subarea	Community	Bristol Bay Red King Crab				Bering Sea Snow Crab			
			1998–2004 Annual Average (Pre-Rationalization)		2005/06–2006/07 Annual Average (Post-Rationalization)		1998–2005 Annual Average (Pre-Rationalization)		2005/06–2006/07 Annual Average (Post-Rationalization)	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alaska	South-Central	Anchorage	4.9	2.0%	3.5	4.3%	4.8	2.4%	3.0	4.3%
		Big Lake	0.1	0.1%	0.0	0.0%	0.1	0.1%	0.0	0.0%
		Cordova	2.1	0.9%	0.0	0.0%	1.8	0.9%	0.0	0.0%
		Kenai	0.6	0.2%	0.0	0.0%	0.6	0.3%	0.0	0.0%
		Homer	6.9	2.8%	3.0	3.7%	6.4	3.2%	2.5	3.6%
		Seldovia	1.0	0.4%	0.5	0.6%	1.0	0.5%	1.0	1.4%
		South-Central Subtotal	*15.6*	*6.4%*	*7.0*	*8.5%*	*14.6*	*7.3%*	*6.5*	*9.3%*
	Southeast	Ketchikan	1.0	0.4%	0.5	0.6%	1.1	0.6%	0.5	0.7%
		Petersburg	2.0	0.8%	0.0	0.0%	2.0	1.0%	0.0	0.0%
		Sitka	1.7	0.7%	0.0	0.0%	1.6	0.8%	0.0	0.0%
		Yakutat	0.9	0.4%	0.0	0.0%	0.8	0.4%	0.0	0.0%
		Southeast Subtotal	*5.6*	*2.3%*	*0.5*	*0.6%*	*5.5*	*2.7%*	*0.5*	*0.7%*
	Aleutians	Unalaska/Dutch Harbor	2.4	1.0%	0.0	0.0%	2.0	1.0%	0.5	0.7%
		King Cove	2.4	1.0%	1.0	1.2%	1.4	0.7%	0.0	0.0%
		Sand Point	0.7	0.3%	0.0	0.0%	0.3	0.1%	0.0	0.0%
		Aleutians Subtotal	*5.6*	*2.3%*	*1.0*	*1.2%*	*3.6*	*1.8%*	*0.5*	*0.7%*
	All Subregions (non-Kodiak)		*26.7*	*10.9%*	*8.5*	*10.4%*	*23.8*	*11.8%*	*7.5*	*10.7%*
	Kodiak	Kodiak	33.6	13.7%	12.5	15.2%	26.1	13.0%	10.0	14.3%
	Alaska Total		**60.3**	**24.7%**	**21.0**	**25.6%**	**49.9**	**24.9%**	**17.5**	**25.0%**
Washington	Seattle-Tacoma CMSA		139.3	57.0%	45.0	54.9%	110.9	55.3%	41.0	58.6%
	Other Washington		18.6	7.6%	6.0	7.3%	16.6	8.3%	2.5	3.6%
	Washington Total		**157.9**	**64.6%**	**51.0**	**62.2%**	**127.5**	**63.6%**	**43.5**	**62.1%**
Oregon	**Oregon Total**		**20.0**	**8.2%**	**8.5**	**10.4%**	**17.5**	**8.7%**	**7.5**	**10.7%**
Other U.S.	**Other U.S. Total**		**6.3**	**2.6%**	**1.5**	**1.8%**	**5.6**	**2.8%**	**1.5**	**2.1%**
All States	**All States Total**		**244.4**	**100.0%**	**82.0**	**100.0%**	**200.5**	**100.0%**	**70.0**	**100.0%**

Source: Alaska Department of Fish and Game 2008.

Table 1-3. Bristol Bay Red King Crab and Bering Sea Snow Crab Catcher Vessel Harvest Volume by Community, Annual Averages Pre- and Post-Rationalization

State	Subarea	Bristol Bay Red King Crab				Bering Sea Snow Crab			
		1998–2004 Annual Average (Pre-Rationalization)		2005/06–2006/07 Annual Average (Post-Rationalization)		1998–2005 Annual Average (Pre-Rationalization)		2005/06–2006/07 Annual Average (Post-Rationalization)	
		Pounds	Percent	Pounds	Percent	Pounds	Percent	Pounds	Percent
Alaska	Kodiak	1,264,878	11.6%	1,761,449	12.0%	7,779,921	10.8%	3,418,655	11.2%
	All Subregions (non-Kodiak)	1,074,714	9.9%	1,444,199	9.9%	6,900,964	9.6%	4,606,254	15.2%
	Alaska Total	*2,339,592*	*21.5%*	*3,205,648*	*21.9%*	*14,680,885*	*20.4%*	*8,024,909*	*26.4%*
Washington		*7,324,873*	*67.4%*	*9,610,467*	*65.6%*	*49,303,450*	*68.6%*	*17,536,395*	*57.7%*
Oregon and Other U.S.		*1,199,228*	*11.0%*	*1,827,851*	*12.5%*	*7,889,859*	*11.0%*	*4,828,897*	*15.9%*
All States Total		**10,863,694**	**100.0%**	**14,643,966**	**100.0%**	**71,874,194**	**100.0%**	**30,390,201**	**100.0%**

Source: Alaska Department of Fish and Game 2008.

Table 1-4. Bristol Bay Red King Crab and Bering Sea Snow Crab Catcher Vessel Harvest Value by Community, Annual Averages Pre- and Post-Rationalization

State	Subarea	Bristol Bay Red King Crab				Bering Sea Snow Crab			
		1998–2004 Annual Average (Pre-Rationalization)		2005/06–2006/07 Annual Average (Post-Rationalization)		1998–2005 Annual Average (Pre-Rationalization)		2005/06–2006/07 Annual Average (Post-Rationalization)	
		Dollars	**Percent**	**Dollars**	**Percent**	**Dollars**	**Percent**	**Dollars**	**Percent**
Alaska	Kodiak	6,159,936	12.0%	7,262,272	12.2%	8,028,114	11.3%	4,563,630	11.5%
	All Subregions (non-Kodiak)	5,131,131	10.0%	5,755,764	9.7%	6,813,280	9.6%	6,308,094	15.9%
	Alaska Total	*11,291,068*	*22.0%*	*13,018,037*	*21.9%*	*14,841,394*	*20.9%*	*10,871,724*	*27.4%*
Washington		*34,498,714*	*67.1%*	*38,849,347*	*65.5%*	*48,054,282*	*67.8%*	*22,584,127*	*57.0%*
Oregon and Other U.S.		*5,633,244*	*11.0%*	*7,476,595*	*12.6%*	*7,997,653*	*11.3%*	*6,192,369*	*15.6%*
All States Total		**51,423,025**	**100.0%**	**59,343,978**	**100.0%**	**70,893,329**	**100.0%**	**39,648,220**	**100.0%**

Source: Alaska Department of Fish and Game 2008; Alaska Commercial Fisheries Entry Commission 2008.

As shown in Table 1-3, the percentage of average annual total harvest was slightly higher for Kodiak-owned vessels post-rationalization than during the pre-rationalization years displayed in both the Bristol Bay red king crab and the Bering Sea snow crab fisheries. For Alaska-owned vessels as a whole, annual average percentages of harvest were higher post-rationalization than were annual averages pre-rationalization, with larger gains seen in the Bering Sea snow crab fishery than in the Bristol Bay red king crab fishery. In absolute terms, annual average volume for Bristol Bay red king crab was higher and Bering Sea snow crab was lower in the post-rationalization era compared to the pre-rationalization era shown, but this was a function of guideline harvest levels (GHLs) or total allowable catch (TAC) rather than a function of rationalization. As shown in Table 1-4, values tracked with volumes for Kodiak and Alaska vessels in general, and the annual average percentage of value of the Bristol Bay red king crab fishery was essentially the same pre- and post-rationalization for all Alaska vessels combined, while the average annual percentage of value for Bering Sea snow crab increased following rationalization. Outside of Alaska, the largest shift in annual average value was seen with the lower percentage of total value of the post-rationalization Bering Sea snow crab fishery harvested by Washington vessels (approximately 57 percent of the total fishery catcher vessel harvest compared to approximately 68 percent of the total fishery catcher vessel harvest).

BSAI crab vessels vary in their relative dependency on crab as vessels participate in a wide range of other fisheries. Table 1-5 displays diversity information by volume of harvest by species on an average annual basis during both pre- and post-rationalization years. Due to confidentiality restrictions, the only Alaska community for which a community total may be disclosed is Kodiak. Table 1-6 provides parallel information displayed by value rather than by volume of harvest. (Tables A1-5a, A1-5b, A1-6a, and A1-6b in Attachment 1 provide analogous volume and value information on a year-by-year basis.) The relatively lower annual average percentage of dependence on crab seen in the post-rationalization years is largely, if not entirely, attributable to the sharp decline in the Bering Sea snow crab fishery that occurred partway through the span of pre-rationalization years in the tables (with the inclusion of the much higher volume and value years at the beginning of the pre-rationalization time period covered serving to skew the pre-rationalization average upward).

1.2.4 Local Community Processor Participation

As shown in Table 1-7, processors are relatively concentrated in a few communities, but community data for processing are known to be less than complete due to a lack of processing location data for a number of floating catcher processors and inshore stationary floating processors. (Tables A1-5a and A1-5b in Attachment 1 provide analogous information on a year-by-year basis.) Prior to rationalization, only Unalaska/Dutch Harbor shows an annual average of more than one processor for each year for each species shown (Bristol Bay red king crab, Bering Sea snow crab, EAI golden king crab, and WAI golden king crab) before and after rationalization within the span of years covered. Besides Unalaska, only Kodiak shows an annual average of more than one processor pre- and post-rationalization for both Bristol Bay red king and Bering Sea snow crab, King Cove shows an average of more than one for Bristol Bay red king only, Akutan shows consistent involvement of one processor with both fisheries, and St. Paul shows consistent involvement of one processor in the Bering Sea snow crab fishery only for all of the years involved. Besides Unalaska, Adak is the only community that shows up processing WAI golden king crab both pre- and post-rationalization; besides Unalaska, Akutan is the only community that shows up as processing EAI golden king crab both pre- and post-

Table 1-5. BSAI Crab Vessel Harvest Diversity, Annual Averages by Volume, Pre- and Post-Rationalization

State	Subarea	Species	1998–2004 Annual Average (Pre-Rationalization)		2006–2007 Annual Average (Post-Rationalization)	
			Pounds	Percent	Pounds	Percent
Alaska	Kodiak	Rationalized Crab	10,451,526	15.5%	5,742,230	8.7%
		Non-Rationalized Crab	447,933	0.7%	234,136	0.4%
		Groundfish	53,445,845	79.1%	56,333,420	85.3%
		Salmon	493,693	0.7%	1,415,512	2.1%
		Herring	7,776	0.0%	0	0.0%
		Halibut	2,562,982	3.8%	1,918,763	2.9%
		Other Species	125,516	0.2%	419,091	0.6%
	All Subregions (non-Kodiak)	Rationalized Crab	8,681,349	40.8%	7,045,570	31.9%
		Non-Rationalized Crab	1,013,875	4.8%	999,144	4.5%
		Groundfish	9,614,351	45.1%	10,536,496	47.6%
		Salmon	1,367,665	6.4%	3,285,880	14.9%
		Herring	0	0.0%	0	0.0%
		Halibut	604,033	2.8%	228,431	1.0%
		Other Species	19,806	0.1%	23,472	0.1%
	Alaska Total	*Rationalized Crab*	*19,132,875*	*21.5%*	*12,787,800*	*14.5%*
		Non-Rationalized Crab	*1,461,807*	*1.6%*	*1,233,280*	*1.4%*
		Groundfish	*63,060,196*	*71.0%*	*66,869,916*	*75.8%*
		Salmon	*1,861,358*	*2.1%*	*4,701,392*	*5.3%*
		Herring	*7,776*	*0.0%*	*0*	*0.0%*
		Halibut	*3,167,015*	*3.6%*	*2,147,194*	*2.4%*
		Other Species	*145,322*	*0.2%*	*442,563*	*0.5%*
Washington Total		*Rationalized Crab*	*64,573,740*	*9.4%*	*30,222,412*	*4.5%*
		Non-Rationalized Crab	*3,394,836*	*0.5%*	*4,333,172*	*0.6%*
		Groundfish	*618,204,704*	*89.9%*	*631,794,291*	*94.5%*
		Salmon	*996,219*	*0.1%*	*1,202,356*	*0.2%*
		Herring	*357*	*0.0%*	*0*	*0.0%*
		Halibut	*294,240*	*0.0%*	*217,270*	*0.0%*
		Other Species	*416,638*	*0.1%*	*471,755*	*0.1%*
Oregon and Other U.S. Total		*Rationalized Crab*	*11,326,657*	*16.2%*	*7,731,253*	*11.4%*
		Non-Rationalized Crab	*397,725*	*0.6%*	*285,184*	*0.4%*
		Groundfish	*56,241,348*	*80.5%*	*59,000,705*	*87.1%*
		Salmon	*960*	*0.0%*	*0*	*0.0%*
		Herring	*14,323*	*0.0%*	*0*	*0.0%*
		Halibut	*1,755,442*	*2.5%*	*579,399*	*0.9%*
		Other Species	*89,305*	*0.1%*	*124,493*	*0.2%*
All States Total		**Rationalized Crab**	**95,033,272**	**11.2%**	**50,741,464**	**6.2%**
		Non-Rationalized Crab	**5,254,368**	**0.6%**	**5,851,635**	**0.7%**
		Groundfish	**737,506,248**	**87.1%**	**757,664,912**	**91.9%**
		Salmon	**2,858,536**	**0.3%**	**5,903,747**	**0.7%**
		Herring	**22,455**	**0.0%**	**0**	**0.0%**
		Halibut	**5,216,698**	**0.6%**	**2,943,863**	**0.4%**
		Other Species	**651,264**	**0.1%**	**1,038,810**	**0.1%**

Source: Alaska Department of Fish and Game 2008.

Table 1-6. BSAI Crab Vessel Harvest Diversity, Annual Averages by Value, Pre- and Post-Rationalization

State	Subarea	Species	1998–2004 Annual Average (Pre-Rationalization)		2006–2007 Annual Average (Post-Rationalization)	
			Dollars	Percent	Dollars	Percent
Alaska	Kodiak	Rationalized Crab	$16,622,377	51.2%	$13,753,859	44.6%
		Non-Rationalized Crab	$1,048,228	3.2%	$554,840	1.8%
		Groundfish	$8,879,572	27.3%	$12,503,690	40.5%
		Salmon	$37,984	0.1%	$307,643	1.0%
		Herring	$1,641	0.0%	$0	0.0%
		Halibut	$5,833,142	18.0%	$3,680,356	11.9%
		Other Species	$57,222	0.2%	$64,474	0.2%
	All Subregions (non-Kodiak)	Rationalized Crab	$12,419,350	68.8%	$15,945,432	67.6%
		Non-Rationalized Crab	$1,909,248	10.6%	$2,509,563	10.6%
		Groundfish	$2,200,633	12.2%	$3,691,689	15.7%
		Salmon	$196,990	1.1%	$577,797	2.5%
		Herring	$0	0.0%	$0	0.0%
		Halibut	$1,318,515	7.3%	$842,388	3.6%
		Other Species	$7,353	0.0%	$8,266	0.0%
	Alaska Total	*Rationalized Crab*	*$29,041,727*	*57.5%*	*$29,699,291*	*54.6%*
		Non-Rationalized Crab	*$2,957,476*	*5.9%*	*$3,064,404*	*5.6%*
		Groundfish	*$11,080,205*	*21.9%*	*$16,195,379*	*29.7%*
		Salmon	*$234,974*	*0.5%*	*$885,440*	*1.6%*
		Herring	*$1,641*	*0.0%*	*$0*	*0.0%*
		Halibut	*$7,151,657*	*14.2%*	*$4,522,744*	*8.3%*
		Other Species	*$64,575*	*0.1%*	*$72,740*	*0.1%*
Washington Total		*Rationalized Crab*	*$94,767,912*	*55.3%*	*$65,338,375*	*39.3%*
		Non-Rationalized Crab	*$7,488,813*	*4.4%*	*$9,803,889*	*5.9%*
		Groundfish	*$68,134,897*	*39.8%*	*$90,198,015*	*54.2%*
		Salmon	*$255,427*	*0.1%*	*$276,216*	*0.2%*
		Herring	*$19*	*0.0%*	*$0*	*0.0%*
		Halibut	*$664,906*	*0.4%*	*$817,693*	*0.5%*
		Other Species	*$29,227*	*0.0%*	*$27,825*	*0.0%*
Oregon and Other U.S. Total		*Rationalized Crab*	*$18,770,029*	*60.0%*	*$15,296,342*	*53.4%*
		Non-Rationalized Crab	*$813,264*	*2.6%*	*$558,583*	*2.0%*
		Groundfish	*$7,693,051*	*24.6%*	*$10,555,787*	*36.9%*
		Salmon	*$1,070*	*0.0%*	*$0*	*0.0%*
		Herring	*$3,251*	*0.0%*	*$0*	*0.0%*
		Halibut	*$4,003,088*	*12.8%*	*$2,191,107*	*7.6%*
		Other Species	*$18,878*	*0.1%*	*$42,225*	*0.1%*
All States Total		**Rationalized Crab**	**$142,579,668**	**56.3%**	**$110,334,008**	**44.2%**
		Non-Rationalized Crab	**$11,259,553**	**4.4%**	**$13,426,876**	**5.4%**
		Groundfish	**$86,908,154**	**34.3%**	**$116,949,181**	**46.9%**
		Salmon	**$491,472**	**0.2%**	**$1,161,655**	**0.5%**
		Herring	**$4,910**	**0.0%**	**$0**	**0.0%**
		Halibut	**$11,819,652**	**4.7%**	**$7,531,544**	**3.0%**
		Other Species	**$112,680**	**0.0%**	**$142,790**	**0.1%**

Source: Alaska Department of Fish and Game 2008.

Table 1-7. BSAI Crab Processor Count by Community, Annual Averages Pre- and Post-Rationalization

Subarea	Community	Bristol Bay Red King Crab				Bering Sea Snow Crab				EAI Golden King Crab				WAI Golden King Crab			
		1998–2004 Annual Average (Pre-Rationalization)		2006–2007 Annual Average (Post-Rationalization)		1998–2004 Annual Average (Pre-Rationalization)		2006–2007 Annual Average (Post-Rationalization)		1998–2004 Annual Average (Pre-Rationalization)		2006–2007 Annual Average (Post-Rationalization)		1998–2004 Annual Average (Pre-Rationalization)		2006–2007 Annual Average (Post-Rationalization)	
		Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
South-Central	Cordova	0.0	0.0%	0.0	0.0%	0.1	0.3%	0.0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%	0.0	0.0%
	Ninilchik	0.0	0.0%	0.0	0.0%	0.1	0.3%	0.0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%	0.0	0.0%
	Wasilla	0.0	0.0%	0.0	0.0%	0.1	0.3%	0.0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%	0.0	0.0%
	South-Central Total	*0.0*	*0.0%*	*0.0*	*0.0%*	*0.4*	*1.3%*	*0.0*	*0.0%*	*0.0*	*0.0%*	*0*	*0.0%*	*0.0*	*0.0%*	*0.0*	0.0%
Southeast	Sitka	0.0	0.0%	0.5	3.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%	0.0	0.0%
Aleutians	Adak	0.1	0.4%	0.0	0.0%	0.1	0.3%	0.0	0.0%	0.9	18.0%	0	0.0%	1.9	28.4%	1.5	25.0%
	Akutan	1.0	3.9%	1.0	6.1%	0.9	3.0%	1.0	4.3%	0.1	2.0%	0.5	9.1%	0.0	0.0%	0.0	0.0%
	Unalaska/Dutch Harbor	6.1	23.6%	4.5	27.3%	6.6	21.6%	7.5	31.9%	3.6	72.0%	3.5	63.6%	2.9	43.3%	2.0	33.3%
	King Cove	1.4	5.4%	2.0	12.1%	1.1	3.6%	1.0	4.3%	0.0	0.0%	0	0.0%	0.0	0.0%	0.0	0.0%
	Sand Point	0.4	1.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0	0.0%	0.0	0.0%	0.0	0.0%
	St. Paul	0.4	1.5%	1.0	6.1%	2.0	6.6%	1.5	6.4%	0.0	0.0%	0	0.0%	0.0	0.0%	0.0	0.0%
	Aleutians Total	*9.4*	*36.3%*	*8.5*	*51.5%*	*10.7*	*35.1%*	*11.0*	*46.8%*	*4.6*	*92.0%*	*4*	*72.7%*	*4.8*	*71.6%*	*3.5*	58.3%
Kodiak	Kodiak	4.4	17.0%	3.0	18.2%	1.9	6.2%	2.0	8.5%	0.0	0.0%	0	0.0%	0.0	0.0%	0.0	0.0%
Floating Catcher Processors		5.4	20.8%	3.5	21.2%	5.1	16.7%	4.0	17.0%	0.0	0.0%	1	18.2%	1.0	14.9%	1.0	16.7%
Inshore Stationary Floating Processors		2.6	10.0%	1.0	6.1%	4.4	14.4%	6.5	27.7%	0.0	0.0%	0.5	9.1%	0.0	0.0%	1.5	25.0%
Unknown		4.1	15.8%	0.0	0.0%	8.0	26.2%	0.0	0.0%	0.4	8.0%	0	0.0%	0.9	13.4%	0.0	0.0%
Total All Areas		**25.9**	**100.0%**	**16.5**	**100.0%**	**30.5**	**100.0%**	**23.5**	**100.0%**	**5.0**	**100.0%**	**5.5**	**100.0%**	**6.7**	**100.0%**	**6.0**	100.0%

Note: Not all percentages add up due to rounding introduced in computing pre- and post-rationalization averages.
Source: Alaska Department of Fish and Game 2008.

rationalization. Again, due to known shortcomings in these data from the exclusion of at least some floating processors and inshore stationary floating processors that should be associated with specific communities, please refer to the more detailed community profiles for a characterization of mobile processors, if any, that are regularly associated with a particular community.

1.2.5 Processor Volume and Value by Community

Due to the low number of processors, confidentiality restrictions preclude the disclosure of community-specific volume or value information for every community except Unalaska/Dutch Harbor, simply based on the number of active processors. Even in that case, the desire to show a more complete analysis of the distribution of processing of A, B, and C share quota requires lumping of Unalaska/Dutch Harbor data with Akutan data. As noted in the Unalaska/Dutch Harbor summary below, however, it can be qualitatively stated that Unalaska did increase its processing market share on an annual average basis post- rationalization compared to pre-rationalization for the years covered by the data.

As described elsewhere in the 3-year review, the geographic distribution of B and C share processing compared to A share processing has varied by year and fishery over the three years of the program. Due to confidentiality considerations, however, that discussion lumps Unalaska/ Dutch Harbor and Akutan together, as well as King Cove and Kodiak together, so no information is available on an individual community basis. Overall, however, in the Bristol Bay red king crab fishery, over the first 3 years of the program, B and C share processing has tended to track relatively closely with A share processing in terms of distribution across communities, except for B share processing in the 2007/2008 season, which tended to be more aggregated in Akutan and Unalaska (and less aggregated in King Cove and Kodiak) than either A or C share processing. For the Bering Sea snow crab fishery, proportionally far more B share processing (between 67.2 percent and 89.3 percent of Individual Processor Quota [IPQ] pool) and C share processing (between 70.3 percent and 87.4 percent of IPQ pool) has tended to take place in Unalaska and Akutan than has A share processing (between 34.1 percent and 46.1 percent of share type) across the 3 years of the program; similar comparisons cannot be consistently made for King Cove and Kodiak combined because of confidentiality restrictions.

1.2.6 Quota Share Distribution by Community

Initial allocations of quota share by community for catcher vessel operator, catcher vessel captain/crew, catcher processor owner, and catcher processor captain/crew shares, along with the distribution of those share types as of the Individual Fishing Quota (IFQ) allocation process for the 2008/2009 season are discussed in the individual community summaries below. This information is also presented in tabular form in Attachment 1 (Tables A1-8 through A1-11).

Social impacts related to changes in the distribution of processing effort have been isolated to a few communities.

- As noted in the Adak community summary below, a locally substantial amount of crab was processed in Adak after the close of the rationalization allocation qualifying period, but prior to the implementation of crab rationalization itself. From a community perspective, the crab rationalization program served to impede what was at the time a growth area for local processing.

- As discussed in the St. George community summary below, crab processing occurred in St. George during the rationalization allocation qualifying period, but had exited the community prior to the implementation of the crab rationalization. Crab rationalization—and specifically the community protection feature of regionalization—has, so far, served to bring crab processing local public revenue benefits back to St. George (via St. Paul on an annual agreement basis), but not processing itself. Importantly, however, no long-term revenue agreement is in place for the City of St. George.

- As described in the Kodiak community profile below, changes in ownership structure of one locally operating crab plant (Ocean Beauty) resulted in that plant no longer being able to process their A share crab, but institutional arrangements were made under the auspices of the rationalization program that have served to retain the processing quota in Kodiak, where it has been utilized by two other local processors.

- With the owners of UniSea coming to have ownership interest in the Unalaska-based processor shares initially allocated to Royal Aleutian Seafoods following the implementation of crab rationalization, ownership divestiture of some Unalaska-based shares of EAI golden king crab was required. Acquired by a third party, these shares have been leased to Harbor Crown Seafoods, which has helped to foster the growth of a relatively new processing entrant to the BSAI crab fisheries while retaining the processing of those shares in Unalaska.

- More recently, an increase in common ownership between several processors (including Westward Seafoods, Peter Pan Seafoods, and Alyeska Seafoods) triggered the requirement for divestiture of some crab processor quota among the group, which could have included processor quota share moving from either King Cove, Unalaska, or both. A recent Council amendment on custom processing, however, has apparently allowed an agreement to be reached that will retain a stable level for processor quota level for King Cove. In this case, King Cove-based processor shares of Bristol Bay red king crab are being transferred to Aleutia with the intention that they will continue to be processed in the community in the future. In the case of Unalaska, the species at issue were EAI golden king crab and WAI golden king crab. These shares are apparently being transferred to the Aleutian Pribilof Islands Community Development Association (APICDA) CDQ group, with the approval of local EAI golden king crab right of first refusal holders from Unalaska (with there being no right of first refusal for WAI golden king crab). Initial indications are that these shares may be processed in Atka, another APICDA community, in the future. This would represent the only known case of processor shares moving between communities via the right of first refusal process following BSAI crab rationalization.

1.3 SUMMARY OF SOCIAL IMPACTS OF BSAI CRAB RATIONALIZATION BY COMMUNITY

As noted in Section 1.1, a more comprehensive discussion of community level impacts may be found in the individual community profiles included in this document (Unalaska/Dutch Harbor, Akutan, King Cove, and Kodiak) or those incorporated by reference (Sand Point, Adak, St. Paul, and St. George [EDAW 2008]). The following summaries follow the order of issue discussion in the referenced profiles, and include harvesting, processing, support service, and local governance

and revenue considerations. In general, the changes associated with rationalization have not been occurring in a vacuum. While crab fleet consolidation has been an issue for a number of different direct and indirect reasons as noted in the summaries below, this consolidation has occurred during a time when Alaska community fleets in general have been getting smaller, as shown in Table 1-8. While rationalization has not largely been seen as resulting in adverse social impacts regarding processing and local governance and revenue considerations (with few exceptions as noted below), support service businesses in a number of communities have also reported a longer-term trend of decline, variously attributed to rationalization in other fisheries or changes in fishery market demands, among other factors. The specific social impacts attributed to crab rationalization in each community are largely a function of the size and structure of the specific community, the nature and intensity of the community engagement in the crab fishery, and the relative level of dependence of the particular community on the crab fishery.

1.3.1 Unalaska/Dutch Harbor

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2008 dataset[6] the number of Unalaska-owned vessels participating in the Bristol Bay red king crab fishery declined from four to one in the years immediately preceding the implementation of BSAI crab rationalization, and no locally owned vessels have participated in the fishery since rationalization. In the Bering Sea snow crab fishery, the number of locally owned vessels declined from three to one in the years leading up to rationalization, and one locally owned vessel participated in this fishery in the first year under the rationalized fishery, but none did so in the second year. No other Unalaska-owned vessels have participated in any of the now-rationalized crab fisheries in recent years, either before or after rationalization. This apparent absence of current, direct participation of Unalaska-owned vessels in the rationalized BSAI crab fisheries is consistent with information developed during interviews for this project. Though a large fishing port, Unalaska is home to a relatively small-scale residential fleet, and the local fleet, virtually out of the fishery prior to rationalization, has been largely unaffected by BSAI crab rationalization itself. Of the five unique vessels with ownership attributed to Unalaska residents that show up in the 1998–2007 crab rationalization database as having fished for even one season over that span of time for either Bristol Bay red king crab or Bering Sea snow crab, four of those vessels remain active in commercial fishing (and thus presumably continue to generate at least some level of economic benefit, even if they have exited the rationalized crab fisheries).

  Among the now-rationalized crab fisheries that have been open in recent years,[7] two Unalaska vessel owners qualified for initial catcher vessel owner quota share allocations in each of the Bristol Bay Red (south), Bering Tanner East, and Bering Tanner West fisheries, while one Unalaska vessel owner qualified for an initial catcher vessel owner

[6] Crab rationalization community analysis dataset, NPFMC, 2008.

[7] Pribilof blue and red king crab fisheries (north and south) and the WAI red king crab fishery have been closed for a number of years, including the 3 years post-implementation of rationalization, and are not expected to reopen in the near future. The St. Matthews blue king crab fisheries (north and south) have also been closed for a number of years, including the 3 years since the implementation of rationalization, but it is considered more likely that this fishery will open in the foreseeable future than the other currently closed but rationalized crab fisheries.

Table 1-8. Total Number of Local Commercial Fishing Vessels by Community by Year (All Fisheries)

Community	Year												
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Adak						2	4	3	3	7	6	6	4
Akutan	6	5	7	5	8	6	6	6	5	4	6	4	4
King Cove	134	130	126	119	111	104	90	80	79	77	75	77	63
Kodiak	743	723	743	698	699	711	655	604	582	575	523	483	477
St. George	12	10	12	12	12	11	11	14	7	6	3	3	3
St. Paul	29	31	27	29	27	28	27	25	24	16	15	16	17
Sand Point	250	242	232	232	227	229	218	192	169	163	155	145	143
Unalaska	72	64	62	53	48	44	45	44	38	55	53	40	43

Source: Alaska Commercial Fisheries Entry Commission 2008.

quota share allocation in each of the Bering Sea snow crab (north) and Bering Sea snow crab (south) fisheries. These numbers, and the percentage of overall quota shares held, were the same for the 2008/2009 IFQ allocation as they were for the initial allocation. (Two Unalaska vessel owners also were initially allocated, and still hold, catcher vessel owner shares in the Pribilof blue and red king crab fisheries, and one Unalaska vessel owner holds catcher vessel owner shares in each of the St. Matthews blue king crab north and St. Matthews blue king crab south fisheries, although these fisheries are not open at present.)

- **Crew –** Although good quantitative data are unavailable, Unalaska historically has had few resident crab crew members, just as it has had few resident crab vessel owners, especially when viewed in contrast to its importance as a service and processing port for the BSAI crab fisheries. Only one local resident qualified for initial catcher vessel captain/crew share allocations in each of the Bristol Bay red king crab (south), Bering Sea snow crab (north), and Bering Sea snow crab (south) fisheries. Initial allocations of catcher vessel captain/crew quota shares were received by two Unalaska residents each in the Bering Tanner East and Bering Tanner West fisheries. No other captain/crew quota shares were received by local residents for any other active BSAI crab fisheries. As of the 2008/2009 season IFQ allocation process, the number of Unalaska residents holding Bering Tanner East and Bering Tanner West catcher vessel captain/crew quota (and the amount held) remained unchanged from the initial allocation, while the Bristol Bay red king crab (south), Bering Sea snow crab (north), and Bering Sea snow crab (south) catcher vessel captain/crew holdings each increased by one Unalaska resident each (to a total of two resident holders each). (Among the currently closed fisheries, one Unalaska resident received an initial catcher vessel captain/crew quota share allocation in the Pribilof blue and red king crab fishery [south]; that level of ownership was unchanged as of the 2008/2009 season IFQ allocation process.) Unlike at least two of the other major port communities, King Cove and Kodiak, local crew job loss as a result of the consolidation of the crab fleet that accompanied BSAI crab rationalization is not a salient issue in Unalaska/Dutch Harbor.

Processing

- Unalaska is home to several shore processors of BSAI crab (including Alyeska, Harbor Crown, UniSea, and Westward Seafoods) and is annually the site of crab processing aboard mobile processing platforms (including those operated by Icicle Seafoods). A relatively high volume processor of BSAI crab in Unalaska, Royal Aleutian Seafoods, was purchased by another processor following the implementation of rationalization and its quota is now run by two different plants in the community but has remained in Unalaska. Overall, since the implementation of crab rationalization, Unalaska plants have generally processed a larger overall percentage of several crab fisheries than before rationalization was implemented. For example, in 2006 and 2007, Unalaska plants, on average, processed roughly 10.5 percent more of the total Bristol Bay red king crab fishery than was the annual average of processing for the years 1998–2004 (with 2005 being excluded as a transition year for community totals), but it is important to note that there was considerable year-to-year variability in the years leading up to rationalization. In general, Unalaska plants processed somewhat less than half of all Bristol Bay red king crab prior to rationalization and somewhat more than half following rationalization. For

the Bering Sea snow crab fishery, that pattern is somewhat different, as Unalaska processors, as a group, built market share over the period 1998 through 2002 and subsequent processing levels, as a percentage of total processing, are little changed since that time (although comparing a 1998 to 2004 average with a 2006–2007 annual average would appear to show the community gaining about 9.7 percent of the total fishery processing during this time). While there was displacement of workers with the closure of the Royal Aleutian plant, crab processing at this plant was typically done with a temporary infusion of nonlocal resident workers. From a community social impact perspective, Unalaska would not appear to have experienced adverse impacts linked to processing as a result of BSAI crab rationalization. As noted in Section 1.2.6, however, there has been some movement of EAI golden king crab and WAI golden king crab Unalaska-based processor quota out of the community as a result of processor ownership changes.

Support Services

- Unalaska has the most developed fishery support service sector in the BSAI region. One general trend among the diverse vessel support businesses in the community prior to crab rationalization, however, was a drop-off in peak seasonal demand that was widely attributed to the earlier occurring pollock co-op rationalization and shortened crab seasons, coupled with a decline in harvest levels in the opilio fishery. In general, as described in the Unalaska community profile, seasonal support service sector employment, which used to be quite substantial for many businesses, has declined over a number of years, as have overtime earnings for support service employees in a number of subsectors, while full-time, year-round employment has tended to remain stable if not increase among existing businesses. While no data are available to allow for a systematic quantitative analysis, interview data gathered for this project suggest that the impacts of crab rationalization has varied widely by individual business, even for businesses within the same support service subsector, based on business structure and relative dependency on the crab fishery *per se*. Local grocery suppliers to the fleet report that crab rationalization impacts have been either minor or offset by other factors, but there has been turnover in businesses in the sector overall. Some marine supply and hardware businesses reported that they have not yet recovered from a decline in crab related revenues, but this sector has also seen a new (post-rationalization) entrant. Within the hydraulics sector, at least one business has reported consistent year-over-year growth for many years, but there has also been a post-rationalization consolidation with the closure of one of the three pre-rationalization providers (although, according to the former owner of the now-closed business, crab rationalization related declines were offset by gains in other fisheries before the business was closed for other reasons). Among welding and ship repair businesses, revenues have generally increased over time, as has employment at all but one entity, but a number of these gains have come from diversifying the businesses as opposed to growth within existing types of offerings. Among the 3 major local sellers of marine fuels, one reported that crab rationalization caused a significant declines in sales, another reported essentially no impacts, and the third was somewhere in between. Impacts among lodging and food and beverage providers attributable to crab rationalization are difficult to gauge because of recent changes in market share in this sector, including changes in business ownership (along with one new entrant) and consolidation of other businesses. The local housing market is strong, with essentially no

vacancies in the community, a quite different situation than was seen after the rationalization of the pollock fishery.

Local Governance and Revenues

- Local fishery-derived revenues have continued to grow over time and the percentage of General Fund revenue attributed to direct fishery sources has fluctuated between approximately 39 and 46 percent over the last 10 years with no clear pattern to those fluctuations. Harbor-specific revenues grew annually over the period 2000 through 2006, but were relatively flat from 2006 through 2007. There are no known adverse impacts to public revenues in Unalaska related to BSAI crab rationalization.

1.3.2 Akutan

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2008 dataset, no vessels owned by Akutan residents participated in the BSAI crab fisheries that have been rationalized either in the years leading up to rationalization (covered by the dataset) or in the years following rationalization. No Akutan vessel owners qualified for an initial allocation of owner quota shares. Akutan is a member community of the APICDA Community Development Quota (CDQ) group, which has ownership interest in two vessels that harvest rationalized crab.

- **Crew** – An earlier study (Knapp and Lowe 2007) reported that as a result of rationalization, four Akutan residents lost crab crew jobs (out of five Akutan residents who were actively crewing prior to rationalization). Interviews for this study suggest that crab crew jobs are still available to Akutan residents on an ongoing basis through APICDA, and, if less frequently, on an opportunistic basis through vessels calling on the local processor. Interviews suggest, however, that these post-rationalization crew jobs may well be less attractive to local residents than pre-rationalization crew jobs due to (1) longer seasons that make crab crewing less compatible with other fishing and nonfishing opportunities in the community that are considered an important part of an integrated employment and income strategy (and preferred family/social arrangements) and (2) a perceived decline in the ability to make a relatively high financial return per day of fishing effort invested away from the community. No Akutan residents qualified for an initial allocation of captain/crew quota shares.

Processing

- Akutan is home to a large processing operation (Trident Seafoods) that was a major crab processing plant prior to rationalization and has remained so post-rationalization. Confidentiality restrictions do not allow disclosure of processing volumes or values. Given the lack of processor quota movement from the community, however, it is assumed that net processing volumes as a percentage of total fishery quota processed have not changed substantially. According to interviews with Akutan community leaders, no long-term residents of the community work at the plant other than a few

individuals who came to the community for employment at the plant, a situation that existed prior to rationalization.

Support Services

- Akutan has little in the way of fishery support services compared to other major fishing ports, and those businesses that do exist are owned by a very few entities. Although an earlier report (Knapp and Lowe 2007) reported that one local business estimated a loss in revenue during the first year post-rationalization, more recent interviews for this project suggest that this particular business is not experiencing adverse long-term effects from rationalization. Interviews with other business owners would suggest that BSAI crab rationalization has not had a substantial impact on their enterprises.

Local Governance and Revenues

- Detailed information on fish taxes cannot be disclosed, but local tax revenues as a whole have increased from 2004 to 2005 and then again from 2005 to 2006. Following a sharp decrease from 2002 to 2003 (prior to rationalization) total operating revenues have increased on an annual basis.

1.3.3 King Cove

Harvesting

- **Vessels –** According to the BSAI crab fishery 1998–2008 dataset, only one vessel owned by King Cove residents participated in the Bristol Bay red king crab fishery in the year immediately prior to the implementation of rationalization, and none participated in the Bering Sea snow crab fishery in the 2 years immediately prior to the implementation of rationalization. No locally owned vessels participated in the Bering Tanner East or Bering Tanner West fisheries in the years covered by the BSAI crab fishery 1998–2008 dataset. The one Bristol Bay red king crab vessel remains the only locally owned vessel active in the rationalized BSAI fisheries, both according to the BSAI crab fishery 1998–2008 dataset and interviews conducted for this project. Of the five unique vessels with ownership attributed to King Cove residents that show up in the 1998–2007 crab rationalization database as having fished for even one season over that span of time for either Bristol Bay red king crab or Bering Sea snow crab, three of those vessels remain active in commercial fishing according to the dataset and another one of the five is known from field interviews to have remained active in commercial fishing (and thus four of the five presumably continue to generate at least some level of economic benefit, even if all but one have exited the rationalized crab fisheries).

  According to the quota share dataset and interviews conducted for this project, only one King Cove vessel owner qualified for an initial allocation of catcher vessel owner quota shares in any of the rationalized crab fisheries. According to the dataset, initial allocation quota share in King Cove was received for the Bristol Bay red king crab (south), Bering Sea snow crab (south), Bering Tanner East, and Bering Tanner West fisheries (with each held by one person). Also according to the quota share dataset, for the 2008/2009 season, in addition to the level of unique holders of quota seen in the initial allocation, a second

unique resident of King Cove has obtained Bristol Bay red king crab (south) vessel owner quota, and one individual resident now owns some Bering Sea snow crab (north) vessel owner quota, diversifying, if modestly, the rationalized crab fishery vessel quota ownership base in the community. (Among the currently closed BSAI rationalized crab fisheries, two King Cove residents hold catcher vessel owner quota shares in the Pribilof blue and red king crab fisheries.)

- **Crew** – While the King Cove locally owned fleet, with one exception, did not engage in BSAI crab fisheries immediately prior to rationalization, King Cove residents did crew on a number of vessels owned by individuals from outside of the community, and especially on a limited number of vessels that, while owned outside of the community, regularly spent time in King Cove. An earlier study (Knapp and Lowe 2007) reported that about 20 King Cove residents lost crab fishing jobs in the 2006/2007 season as a result of crab rationalization. While this is difficult to quantify with precision, based on the fact participation of individuals varied from year to year for a number of reasons, this estimate is generally consistent with information developed in 2004 pre- and 2008 post-rationalization implementation interviews for the current study effort. Essentially, while opportunities for crewing within the local fleet were very limited—and had become more so in recent years as a result of the separate crab vessel buy-back program and previously occurring changes, including the timing of fishing seasons, that tended to limit direct participation of local vessels—pre-rationalization crewing on crab vessels from outside of the community nonetheless represented a significant source of employment and income for King Cove residents in a way and to a degree not seen in post-rationalization crabbing. As a non-CDQ community, King Cove residents do not have the degree of alternative access to post-rationalization crab crew jobs that is seen in a CDQ community such as Akutan. Information from multiple interviews with individuals from a variety of sectors in the community suggest that loss of crab crew jobs in King Cove was and is a serious social impact of rationalization. Again, like Akutan, however, it may be the case in King Cove that post-rationalization crew jobs, even when available, are less attractive than pre-rationalization crew jobs for the same reasons described in the Akutan summary.

  According to interview data gathered for this project and according to at least one other study (including Knapp and Lowe 2007), a total of three King Cove residents qualified for an initial allocation of captain/crew quota shares in any of the rationalized BSAI fisheries. According to the quota allocation dataset, however, a total of four unique King Cove residents received initial allocations of C shares in the Bristol Bay red king crab fishery (south), while initial allocations were made to three individuals in each of the Bering Sea snow, Bering Tanner East, and Bering Tanner West crab fisheries. (Among the currently closed BSAI rationalized crab fisheries, two King Cove residents each were initially allocated vessel captain/crew quota shares in the Pribilof blue and red king crab [north], Pribilof blue and red king crab [south], and St. Matthews blue [north] fisheries, and one resident was initially allocated captain/crew quota shares in the St. Matthews blue [south] fishery. As of the 2008/2009 IFQ allocation process, the number of King Cove resident captain/crew quota shareholders had declined by one in each of the St. Matthews blue king crab fisheries, but otherwise had remained constant among the closed fisheries.)

Processing

- King Cove is home to a large processing operation (Peter Pan Seafoods) that was a major crab processing plant prior to rationalization and has remained so post-rationalization. Confidentiality restrictions do not allow disclosure of processing volumes or values. Given the lack of processor quota movement from the community, however, it is assumed that net processing volumes as a percentage of total fishery quota processed have not changed substantially. Further, according to interviews with plant management, employment levels and the annual activity fluctuations at the plant have remained consistent with the patterns seen before rationalization was implemented. According to interviews, no long-term residents of the community work at the plant other than a few individuals who came to the community for employment at the plant, a situation that existed prior to rationalization. As noted in Section 1.2.6, however, changing processor ownership patterns have resulted in the transfer of some King Cove-based processor quota from Peter Pan Seafoods to Aleutia, a regional (Aleutians East Borough [AEB]) based entity, although it is intended these shares will be processed in King Cove in the future.

Support Services

- An earlier study analyzed confidential sales tax information from eight King Cove businesses and concluded that it was difficult to see any clear negative effect of crab rationalization on sales, with one noted exception (Knapp and Lowe 2007). Interviews conducted for this project with a variety of support service providers suggest that there is a commonly held perception that there have been declines in business related to the loss of crab crew jobs by local residents and associated income that is respent in the community by those residents. Further, the consolidation of the fleet, in turn, has resulted in both fewer vessels to service and fewer people coming into King Cove from outside of the community (and spending money in the community). While individual quantitative business information is not available, the owners of a number of one- or two-person businesses, such the local cab company, a filter business, a welding operation, and a dive operation, report that business has been off as a result of crab fleet consolidation. For some of these businesses, and others like them, quantification of impacts and attribution to any one cause would be particularly difficult as, in most cases, their owners split their efforts between multiple business ventures, and in other cases pursue opportunities in more than one community during the year. For other businesses, another complexity is introduced as businesses have diversified or otherwise adapted to changing circumstances. For example, the two larger general stores in the community have experienced opposite fortunes in the years following crab rationalization, reportedly due to a shift in market share between the businesses, which, in one of the two cases, (along with any other natural growth) has served to offset whatever crab-related decline may have otherwise been experienced. In another example, the owner of the local business that includes pot hauling and vessel watch, among other services, reports that while pot hauling revenue has declined sharply following rationalization, increases in revenue from boat watch services have offset those declines. Of the two bars in the community, the owner of one reported that business has been off as a result of a decrease in crab-related activity, but management of the other reports that business has been improved during these same years and returns are up post-rationalization due to changes in business

practices. In short, the local economy of King Cove, like other communities, is dynamic and individual businesses (and individual business owners), even within the same service sector, adapt to changing circumstances in a number of different ways. With an increased economic vitality associated with gains in other locally important fisheries, isolating conditions that would exist but for BSAI crab rationalization is all the more problematic.

Local Governance and Revenues

- Details on local fish tax revenues cannot be disclosed. Local tax revenues have increased annually since 2002, following a sharp decline between 2000 and 2002, such that by 2008, local leadership characterized the financial situation of the community as being as strong and as healthy as it has ever been, a clear reversal of what was experienced early in the decade. While harbor-specific revenues were apparently adversely affected by decreases in activity associated with BSAI crab rationalization during the first year post-program implementation, and the annual revenue related to pot transfers remains lower than in the years immediately preceding crab rationalization, moorage revenues specifically and harbor revenues in general have returned to, if not exceeded, pre-rationalization levels.

1.3.4 Kodiak

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2008 dataset, in the years leading up to the implementation of BSAI crab rationalization, an annual average of 33.6 and 26.1 vessels owned by Kodiak residents participated in the Bristol Bay red king crab and Bering Sea snow crab fisheries, respectively. In the 2 years post-rationalization for which data are available, these annual averages dropped to 12.5 for the Bristol Bay red king crab fishery and 10 for the Bering Sea snow crab fishery, decreases of 63 percent and 62 percent, respectively. In absolute numbers, there were fewer Kodiak-owned vessels in both fisheries in the second year of rationalization (2006/2007) than there were in the first year (2005/2006). (Bristol Bay red king crab Kodiak-owned vessels dropped from 14 to 11 and Bering Sea snow crab vessels dropped from 11 to 9.) Compared to vessels owned by residents of other communities, the annual average percentage of the total harvest attributed to Kodiak vessels increased slightly in post-rationalization years compared to all vessels in both fisheries. (According to the BSAI crab fishery 1998–2008 dataset, Kodiak-owned vessels accounted for approximately 11.6 percent of the total annual average Bristol Bay red king crab harvest in the pre-rationalization years covered by the dataset and approximately 12.0 percent in the post-rationalization years covered by the dataset; the analogous figures for the Bering Sea snow crab fishery were 10.8 percent and 11.2 percent, respectively.) Kodiak vessel owners were unique among all Alaska vessel owners in having harvested EAI golden king crab and WAI golden king crab in the years prior to rationalization that are covered by the BSAI crab fishery 1998–2008 dataset, although none have participated in these fisheries in the two post-rationalization years for which data are available. While no Kodiak-owned vessels participated in the Bering Tanner East or Bering Tanner West fisheries during the pre-rationalization years covered by the BSAI crab fishery 1998–2008 dataset, five Kodiak-owned vessels participated in the Bering Tanner East in the 2006/2007 season (out of

seven vessels participating from all of Alaska) and six and two Kodiak-owned vessels participated in the Bering Tanner West fisheries in the 2005/2006 and 2006/2007 seasons, respectively (with eight vessels from all of Alaska participating in each of those fisheries in those years). Of the 50 unique vessels with ownership attributed to Kodiak residents that show up in the 1998–2007 crab rationalization database as having fished for even one season over that span of time for any of the currently open and rationalized BSAI crab fisheries, 27 of those vessels are shown in the database as remaining active in commercial fishing (and thus presumably continue to generate at least some level of economic benefit, even if they have exited the rationalized crab fisheries).

In terms of initial quota allocations, the unique number of Kodiak residents receiving catcher vessel owner allocations in each of the fisheries are as follows: 1 for Bristol Bay red king crab (north), 20 for Bristol Bay red king crab (south), 19 for Bering Sea snow crab (north), 14 for Bering Sea snow crab (south), 1 for EAI golden king crab, 1 for WAI golden king crab (unregionalized), 1 for WAI golden king crab (west), and 21 each for Bering Tanner East and West. With the exception of the EAI and WAI golden king crab fisheries, which remained the same with 1 local catcher vessel owner quota holder each, in the 2008/2009 fisheries, there were more unique Kodiak owners of catcher vessel owner quota and a higher percentage of total fishery catcher vessel owner quota owned by Kodiak residents than was the case under the initial allocation. Comparing the number of 2008/2009 season unique Kodiak resident owners of catcher vessel owner quota with the number of residents owning quota under the initial allocation, Kodiak resident ownership increased from 1 to 6 in the Bristol Bay red king crab (north) fishery; from 20 to 26 in the Bristol Bay red king crab fishery (south); from 19 to 26 in the Bering Sea snow crab (north) fishery; from 14 to 20 in the Bering Sea snow crab (south) fishery; from 21 to 23 in the Bering Tanner East fishery; and from 21 to 25 in the Bering Tanner West fishery. Comparing 2008/2009 IFQ distribution to the distribution of initial quota share allocations, Kodiak catcher vessel owner IFQ as a percent of the total fishery catcher vessel owner quota increased from 5.7 to 8.1 percent of the Bristol Bay red king crab (north) fishery; from 8.5 percent to 10.1 percent of the Bristol Bay red king crab fishery (south); from 10.6 percent to 12.6 percent of the Bering Sea snow crab (north) fishery; from 7.1 to 7.9 percent of the Bering Sea snow crab (south) fishery; from 10.9 percent to 11.2 percent of the Bering Tanner East fishery; and from 10.9 percent to 11.4 percent of the Bering Tanner West fishery. (Among the BSAI crab fisheries that are currently not open, multiple Kodiak vessel owners qualified for initial allocations in each of the closed fisheries. Between the initial allocation and the 2008/2009 season IFQ allocation process, the number of unique Kodiak individuals holding catcher vessel owner quota share and the percentage of overall quota held increased for each of these fisheries, with the exception of the WAI red king crab fishery, where Kodiak holdings remained constant.)

- **Crew –** Crew job loss associated with the fleet consolidation that accompanied BSAI crab rationalization is the main direct social impact issue for Kodiak as it was for King Cove. Kodiak, as home to the largest local fleet engaged in the now-rationalized BSAI crab fisheries, was the community that experienced the greatest absolute reduction in the number of local vessels participating in the fisheries. While some of these vessels have remained in the community and continue to generate some economic activity for support service businesses and, in some cases, for crew in other fisheries, and the local vessels

remaining in the BSAI crab fisheries have increased the Kodiak fleet harvest share of those fisheries, this has not benefited quite a few former crew members. Kodiak, with the largest residential commercial fishing fleet in the state, arguably has more alternate crew opportunities for ex-crab crew members in other fisheries than does any other community, and with the remaining largest BSAI crab fleet in the state arguably has more ongoing opportunities for those individuals looking to continue participation in the fishery than is the case in any other Alaska community. However, interviews suggest that these post-rationalization crew jobs may well be less attractive to local residents than pre-rationalization crew jobs for the same reasons noted in the Akutan discussion (i.e., due to [1] longer seasons that make crab crewing less compatible with other fishing and non-fishing opportunities in the community that are considered an important part of an integrated employment and income strategy [and preferred family/social arrangements] and [2] a perceived decline in the ability to make a relatively high financial return per day of fishing effort invested away from the community).

In terms of catcher vessel captain/crew initial quota allocations, the unique number of Kodiak residents receiving allocations in each of the fisheries is as follows: 3 for Bristol Bay red king crab (north), 20 for Bristol Bay red king crab (south), 17 for Bering Sea snow crab (north), 11 for Bering Sea snow crab (south), 20 for Bering Tanner East, and 20 for Bering Tanner West. Between the initial allocation and the 2008/2009 IFQ allocation, the number of unique individuals holding Bristol Bay red king crab (north) quota has not increased, but the proportion of total C share quota held by Kodiak residents increased (from 17.5 percent to 20.2 percent); for Bristol Bay red (south), both the number of quota holders increased (from 20 to 23) as did the percentage of total C share quota held by Kodiak residents (from 8.6 to 10.5 percent). For Bering Sea snow crab (north), the number of Kodiak C share quota holders declined (from 17 to 14) as did the percentage of total fishery C share quota held by community residents (from 15.8 to 14.1 percent); for Bering Sea snow crab (south), the number of Kodiak C share quota holders remained the same, but the percent of total fishery C share quota declined (from 5.6 percent to 4.4 percent). For the Bering Tanner East fishery, Kodiak C share quota holders increased by one (from 20 to 21), while the number of Bering Tanner West Kodiak C share quota holders remained constant; in both fisheries the percentage of total fishery C share quota held by Kodiak residents increased from 11.6 percent to 13.5 percent). (Among the rationalized fisheries that are not currently open, a few Kodiak residents received catcher vessel captain/crew share initial allocations in both north and south Pribilof blue and red king crab fisheries and north and south St. Matthews blue king crab fisheries, but these numbers, small to begin with, have declined between the initial allocation and the 2008/2009 seasonal IFQ allocation for these fisheries. Because these fisheries are closed, however, no present impacts have occurred.)

Processing

- According to the BSAI crab fishery 1998–2008 dataset, in the years leading up to the implementation of BSAI crab rationalization, between one and eight Kodiak plants processed Bristol Bay red king crab and between one and four Kodiak plants processed Bering Sea snow crab in any given year. Post-implementation of BSAI crab rationalization, four and two Kodiak plants have been processing Bristol Bay red king crab and Bering Sea snow crab, respectively, according to the dataset, but interview data

would suggest that only three plants (Ocean Beauty Seafoods, Alaska Pacific Seafoods, and Alaska Fresh Seafoods) are actually processing any BSAI rationalized crab as a targeted activity. Due to confidentiality restrictions, processing volumes and values for these species for Kodiak cannot be disclosed. Given the lack of processor quota movement from the community, however, it is assumed that net processing volumes as a percentage of total fishery quota processed have not changed substantially. Further, according to interview data, processing employment levels at the processors were not adversely affected by BSAI crab rationalization. Unlike other communities profiled, Kodiak processors mainly utilize a local resident processing workforce.

Support Services

- An earlier study (Knapp 2006) included an analysis of sales tax information from a total of 12 Kodiak marine supply and service businesses and concluded that BSAI crab rationalization "has cut into the sales of some Kodiak businesses which supply and service the crab fleet—but there has been no obvious major decline for marine supply and service companies since rationalization began." Interviews conducted for this project with a variety of support service providers in Kodiak, like those in King Cove, suggest that there is a commonly held perception that there have been declines in business related to the loss of crab crew jobs by local residents and associated income that is respent in the community by those residents, but the interviews largely support the findings of the earlier study. Further, as was the case for King Cove support businesses, the consolidation of the fleet, in turn, has resulted in fewer vessels to service. Whereas in King Cove this fleet consolidation meant fewer people (and their spending) affiliated with outside vessels coming through the community, BSAI crab vessels in Kodiak pre- and post-rationalization largely were and are Kodiak vessels.

  An updated analysis of the sales information of 12 businesses included in the earlier study showed that 1 business had closed in the meantime (in December 2006) but that among the remaining 11 businesses, sales were increased for 9 of the 11 businesses when comparing the fourth quarter of 2007 (the most recent fourth quarter) to the fourth quarter of 2004 (the last fourth quarter prior to rationalization); analogous figures for the first quarter of 2008 (the most recent first quarter) to the first quarter of 2005 (the last first quarter prior to rationalization) show sales increases for 10 of the 11 remaining businesses. Drawing conclusions from point-in-time data is challenging, however, and while overall there do not appear to be substantial BSAI crab rationalization social impacts generated from the support service sector for the community as a whole, data from interviews suggest a complex situation, similar to that seen in King Cove but on a larger scale. That is, a number of businesses have adapted to changing conditions and have absorbed declines related to BSAI crab rationalization by focusing on other opportunities. Whether these businesses would have been better off but for BSAI crab rationalization remains an open question, but clearly rationalization was seen as a disruption in business operations for a number of these firms and some more than others. For example, among three major marine supply businesses, one reported virtually no direct impacts, but they reportedly did experience indirect impacts through a decrease in spending by former crab crew members on gear for other fisheries. Another reported initial declines followed by an adaptation to new conditions, while a third reported being hit hard with both a loss of direct sales and a loss of indirect sales through a decline in

crew spending. Neither of the larger hydraulics businesses reported an impact to the bottom line of the firm, but at least one reportedly picked up market share from another Kodiak firm that went out of business. Other firms, such as the largest local welding firm, reported that BSAI crab rationalization had an adverse impact, but that the levels of employment at the firm had already experienced a steep decline prior to the implementation of rationalization. Still other firms reported a loss in sales related to the consolidation of the crab fleet but these have not been large enough to make a significant difference in the bottom line of the business, such as the largest local grocery store, while others reported that after taking an initial hit, an adjustment of business practices helped in recovery, such as was the case with the primary marine electronics supplier. In short, the local economy of Kodiak, like other communities, is dynamic and individual businesses, and individual business owners, even within the same service sector, adapt to changing circumstances in a number of different ways.

Local Governance and Revenues

- Detailed information on local fish tax revenues related to BSAI crab cannot be disclosed. Local operating revenues generated by taxes have increased each year since 2001; shared fish show a more complex pattern. Although all subsequent years are higher than the figure for 2003, the state shared fish tax revenues for 2004 were higher than those for 2005 and 2006, but lower than those for 2007. Kodiak Island Borough fish tax revenues showed an annual decline from 2002 to 2004 but have shown an annual increase from 2004 through 2007. Kodiak harbor revenues have shown annual increases from 2004 to 2007.

1.3.5 Sand Point

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2008 dataset, one vessel owned by a Sand Point resident fished in the Bristol Bay red king crab fishery five of the seven seasons leading up to BSAI crab rationalization, but it has not participated in the fishery following rationalization. This same vessel also participated in the Bering Sea snow crab fishery in two of the three seasons between 1998 and 2000 but has not participated in that fishery since that time. This vessel has remained in Sand Point and is active in other fisheries. According to interview information gathered for this project, two other vessels considered by residents to be locally owned (but shown in the BSAI crab fishery dataset as owned in Washington state) fished both Bristol Bay red king crab and Bering Sea snow crab in the years leading up to rationalization and both are still actively in these fisheries. One other vessel with Washington ownership but ties to Sand Point has apparently fished its BSAI crab quota off other vessels since rationalization, although it has remained active in other fisheries around Sand Point. Another vessel that formerly fished BSAI crab, had Washington-based ownership, and had ties to Sand Point has reportedly fished its quota off other vessels since rationalization and has left Sand Point altogether. According to the quota share dataset, only one Sand Point vessel owner qualified for an initial allocation of catcher vessel owner quota shares in the Bering Tanner East fishery and one qualified for quota shares in the Bering Tanner West fishery; no other Sand Point vessel owners qualified for initial allocation in any of the other

rationalized fisheries that have been open in recent years. Also according to the quota share dataset, as of the 2008/2009 season IFQ allocation, no Sand Point residents are catcher vessel quota holders in any of the BSAI rationalized crab fisheries with current openings. (One Sand Point vessel owner did qualify for an initial allocation of Pribilof blue and red king crab catcher vessel owner shares and the level of local ownership has remained constant as of the 2008/2009 season IFQ allocation process, but this fishery has not been open for several years.)

- **Crew** – Interviews conducted for this project suggest that one crab vessel with an all-Sand Point crew and another vessel that hired at least some local crew members left the BSAI crab fisheries as a result of consolidation following rationalization. A few local fishermen also seasonally crewed on other Bering Sea crab vessels, according to interviews, such that estimates by a number of local fishermen and local government personnel suggest that perhaps six to eight seasonal crab crew positions were lost that were normally filled by Sand Point residents, but the actual number of residents directly affected as former crew members may be closer to a dozen, as different individuals would occupy these positions from year to year. Some of these individuals are now cod fishing in the winter out of Sand Point, but there has been a decline in earning potential compared to the level of effort associated with the switch from crab to cod fisheries. Despite the losses in seasonal crew positions and the loss of a few vessels from outside of the community that would spend at least some time moored in Sand Point, the overall assessment by both local community and AEB leadership is that Sand Point was relatively little affected by BSAI crab rationalization (especially when compared to neighboring King Cove). According to the quota allocation dataset, there was only one initial allocation of captain/crew quota shares for a Sand Point resident in the active BSAI rationalized crab fisheries, and that was in the Bristol Bay Red (south) fishery. This level of share ownership (and relative share allocation) was unchanged as of the 2008/2009 seasonal IFQ allocation. (One Sand Point resident did qualify for an initial allocation of Pribilof blue and red king crab catcher vessel captain/crew shares and the level of local ownership has remained constant as of the 2008/2009 season IFQ allocation process, but this fishery has not been open for several years.)

Processing

- Sand Point is home to both a large local processing operation (Trident Seafoods) and a local buying station (Peter Pan Seafoods). While the local processing operation did process at least some Bristol Bay red king crab from 2002 to 2004, according to the BSAI crab dataset, no Bristol Bay red king crab was processed in the earlier years covered by this dataset (back to 1998), nor has any Bristol Bay red king crab been processed at the plant since the implementation of BSAI rationalization. Further, no other species of rationalized BSAI crab was processed at the plant in any of the years covered by the dataset prior to or after rationalization (1998 through 2007). The discontinuation of processing of Bristol Bay red king crab reportedly did affect seasonal worker demand for at least a brief period, but changes in pollock product form has created an offsetting need for additional processors during this time.

Support Services

- Sand Point has a fishery support service industry of a scale comparable to that seen in King Cove, which is to say intermediately between the larger communities of Unalaska and Kodiak and the smaller communities of Akutan, Adak, St. George, and St. Paul. Local support businesses include small-scale welding, mechanical, and shipwright services; general and hardware/marine supply stores; lodging and restaurants; and a variety of enterprises pursued by the Shumagin Corporation, the local Alaska Native Claims Settlement Act (ANCSA) village corporation. While the Shumagin Corporation in particular has felt the impact of a slow-down in business related to a drop-off in activities prior to pre-rationalization crab seasons when a portion of the fleet would await openers in the community, according to borough and local officials, historically Sand Point has been characterized by flexibility and the ability to adapt to fishery conditions that may fluctuate on a shorter- or longer-term basis. While limited access to investment capital has resulted in a little less flexibility in recent years, the customer base for fishery support services is affected more by the larger economic forces surrounding the salmon and halibut fisheries than the BSAI crab fisheries.

Local Governance and Revenues

- Detailed information on local fish taxes cannot be disclosed, but Sand Point local tax revenues as a whole have fluctuated dramatically in recent years, from as low as $287,282 in 1999 to as high as about $1.25 million in 2006 and 2007. As an example of the volatility of this revenue source, local tax revenue dropped from close to $1 million in 2004 to under $500,000 in 2005 before rebounding past $1 million in 2006 and 2007. Overall total operating revenues have not shown the same degree of variability, however, and between 2004 and 2007 they ranged from $2.4 million and $2.9 million.

1.3.6 Adak

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2008 dataset and interviews conducted for this project, no vessels owned by Adak residents participated in the BSAI crab fisheries that have been rationalized either in the years leading up to the rationalization or the years following rationalization. No Adak vessel owners qualified for an initial allocation of catcher vessel owner quota shares. Adak is not a member of a CDQ group and does not have any ownership interest in any crabbing vessels.

- **Crew –** No vessels local to Adak are large enough to participate in the BSAI crab fishery directly, and interviews with local residents suggest that obtaining a crew position on a crab vessel outside the community is not a viable employment alternative. No Adak residents qualified for an initial allocation of captain/crew quota shares in any of the rationalized BSAI crab fisheries.

Processing

- Adak is home to one onshore processing operation (Adak Fisheries), which, among crab fisheries, is primarily engaged in WAI golden king crab processing. Although the plant did not qualify for an initial allocation of processor quota based on processing history during the program qualifying years, the plant did process a locally significant amount of crab in the interval of years following the close of the qualifying period, but prior to the implementation of the rationalization program itself. Although specific figures are confidential, interviews with plant management would suggest that the implementation of crab rationalization and the accompanying lack of ability to process crab at the levels seen just prior to rationalization were a substantial impact both to this individual business operation and to the local economy of Adak. Although a community enhancement feature of the BSAI crab rationalization program provided an initial allocation of 60,000 pounds of brown crab processor quota to the plant and a 250,000-pound WAI golden king crab harvester community quota to the community, this level of allocation was not great enough and effectively "turned the lights off on crab in the community," according to processor management.

Support Services

- As a newly reconstituted civilian community, Adak is in the process of developing support service capabilities for the fishing fleet. One challenge has been 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. This is true of the larger crab vessels in the area, some of which have started to refuel in Adak. Crew transfers for crab vessels are also increasing in Adak, as Alaska Airlines is able to provide relatively well-scheduled service to Adak's former military airport.

Local Governance and Revenues

- Detailed information on revenue from fish taxes cannot be disclosed, but local tax revenues have decreased since 2003, when there was a peak of just over $792,000. Since then, tax revenues have steadily decreased to over $642,000 in 2005 and $589,000 in 2006. The total revenue for 2006 ($1,890,285) marks the lowest total revenue since 2002 ($1,236,726), which was the first year Adak provided municipal revenue information to the State, and is less than two-thirds of the revenue seen in the preceding 3 years.

- Adak is also the beneficiary of a direct allocation program designed to increase community benefits from the BSAI crab rationalization program. A WAI golden king crab allocation to Adak, approved by the NPFMC and later mandated by congressional action, took effect in 2005. The allocation is made to a nonprofit entity representing the City of Adak and has yielded mixed results to date. The City did derive at least some modest revenue from the lease of the allocated quota during the first year of the program. No vessels were interested in leasing quota with a royalty obligation during the second year of the program due to poor prices, however, so the Adak community quota was given to a vessel, royalty free, with the stipulation that the crab harvested under the allocation would be delivered to

Adak. By the third year of the program, however, a standard 20 percent of value lease royalty payments to the community entity were reportedly again collected.

1.3.7 St. Paul

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2008 dataset and interviews conducted for this project, no vessels owned by St. Paul residents participated in the BSAI crab fisheries that have been rationalized either in the years leading up to rationalization or the years following rationalization. No St. Paul vessel owners qualified for an initial allocation of catcher vessel owner quota shares, nor have they acquired them in subsequent years. St. Paul is the only member community of the Central Bering Sea Fishermen's Association (CBSFA), a CDQ group, which owns (through a subsidiary [MSDH LLC]) percentages of four vessels that harvest rationalized crab and retains BSAI crab harvester quota originally associated with two previously owned vessels.

- **Crew** – In terms of direct participation, local fishermen are almost exclusively engaged in the halibut fishery. With CBSFA investments in four crab vessels, St. Paul residents interested in obtaining a crew position on a crab vessel have ready access though the CBSFA. Officials from CBSFA report, however, that this is not common because of (1) the relative ability of halibut fishermen to receive income throughout the year due to a phased payment for the halibut harvest that continues through the fall and winter, and (2) relatively ample alternate employment opportunities on-island during typical crabbing months. No St. Paul residents qualified for an initial allocation of captain/crew quota shares, nor have they acquired them in subsequent years.

Processing

- St. Paul is home to one large onshore processing operation (Trident Seafoods), which was a major crab processing plant prior to rationalization and has remained so post-rationalization. St. Paul has also been the site of a number of mobile processing operations over the years either inside the harbor (with larger operations including UniSea and Icicle) or in the area but outside the harbor (including Norquest and a number of others) as the nature of the fishery and its economic incentives dictated. While the floating processors do not typically employ any St. Paul residents, a handful of long-term residents are employed at the Trident shoreplant. These employees typically work the entire year, which includes the BSAI crab season in the fall and winter months, and the halibut season in the spring and summer months.

  An overriding concern of St. Paul entities has been that if changes in the crab fishery through the BSAI crab rationalization program itself or another "crab crash" were to result in the closure of the onshore plant and processing moving away from St. Paul, the results would be devastating for two primary reasons. First, local fiscal revenues depend heavily on fish taxes. Second, the current processing infrastructure and capacity allow the local halibut fishery, a mainstay of household income, to be economically viable. In the current environment, Trident Seafoods processes crab and 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. BSAI crab rationalization, with its northern region share designation, is seen in the community as an essential component in a viable local economy. In other words, the regionalization feature of crab rationalization is seen to have worked from the perspective of St. Paul.

Support Services

- The 1999–2000 downturn in BSAI crab GHLs is now looked at as a crab crash in hindsight and has generally affected the community of St. Paul negatively with lower stocks affecting taxes, CBSFA investments, and the viability of support services. More recently, however, BSAI crab rationalization has resulted in stabilizing the season. With a longer season, vessels remaining in the fishery are likely to purchase more fuel and supplies locally than was the case prior to rationalization. Residents generally feel that the community has benefited from crab rationalization and the establishment of a north region harvester and processor quota shares, although a number of residents have been adversely affected by co-occurring conditions that resulted in the official determination by the National Marine Fisheries Service (NMFS) of the continuation in 2005 and 2006 of a "commercial fishery failure" for the Bering Sea opilio crab fishery. A few enterprises, such as crab gear storage, have seen some decline in revenues more directly linked to crab rationalization.

Local Governance and Revenues

- Detailed information on fish taxes cannot be disclosed, but the local tax revenues as a whole have increased since crab rationalization has been implemented. From a peak tax base in 1999 of over $3 million, local taxes decreased sharply in 2000 and have been between $731,000 and $917,000 for the years of 2000–2004. For the years 2005 and 2006, however, the local taxes have been over $929,000, with total revenues for St. Paul in 2005 and 2006 higher than any year since 2000.

1.3.8 St. George

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2008 dataset, no vessels owned by St. George residents participated in the BSAI crab fisheries that have been rationalized either in the years leading up to rationalization or the years following rationalization. No St. George vessel owners qualified for an initial allocation of owner quota shares, nor have they acquired them in subsequent years. Like Akutan, St. George is a member community of the APICDA CDQ group, which has ownership interest in two vessels that harvest rationalized crab.

- **Crew –** As was the case for St. Paul, St. George fishermen are exclusively or nearly exclusively focused on the halibut fishery and are not directly involved in crab fishing in any way. As a member community of APICDA, St. George residents interested in crewing on a crab vessel do have the opportunity to apply for a position on those vessels owned by APICA. However, information gathered during fieldwork in 2007 suggests

that this is not regularly practiced. No St. George residents qualified for an initial allocation of captain/crew quota shares, nor have they acquired them in subsequent years.

Processing

- During a number of years within the BSAI crab rationalization qualifying period when crab stocks (and quota) were large, smaller inshore floating processors operated in St. George harbor, but with relatively depressed crab stocks such operations have reportedly not been economically viable. In the years immediately preceding BSAI crab rationalization, St. George saw no local crab processing, nor has St. George seen local processing in the years following the implementation of BSAI crab rationalization. North region designated processor quota that was historically accrued in St. George has been processed in St. Paul since the implementation of the rationalization program.[8]

Support Services

- Of all of the communities covered in this section, the support service (and general) economy of St. George is arguably the least robust, having scaled back considerably since the crab crash and the termination of local seafood processing. There are no fishery support services aside from marine fuel sales at the harbor and crab pot storage, both of which experienced a steep decline in the years immediately prior to rationalization due to decreased GHLs. Damage to the harbor exacerbated the situation, making navigation of the turns difficult for larger crab vessels and leading many of these vessels to refuel and/or store crab pots in St. Paul instead of St. George.

Local Governance and Revenues

- Detailed information on fish taxes cannot be disclosed, and official records suggest that St. George taxes have equaled $0 since 2004, but it is known through interview data that an agreement is made yearly between St. George and St. Paul to share fish taxes earned on processor quota historically accrued in St. George but actually currently processed in St. Paul. While never formalized, the processing entity in St. Paul (either Trident or Icicle) communicates to St. Paul how much of each community's quota has been processed. St. Paul then calculates the fish tax associated with the St. George quota history and transfers 90 percent of that total to the St. George government. As described by the St. Paul city manager, this agreement is seen as a win/win situation for each community, as St. George is able to gather some taxes from its crab quota, while St. Paul strengthens its ties and improves its relationship with neighboring St. George.

[8] On October 7, 2008, APICDA announced that its wholly owned for-profit subsidiary, APICDA Joint Ventures, Inc., has reached agreement with Snopac Products, Inc. to purchase all of Snopac's crab PQS along with their crab processing line and equipment. This PQS was originally associated with St. George as it was accrued during the qualifying period by operations in the community. The ultimate intent of APICDA in acquiring this PQS is to return processing to St. George, with the immediate plans being to construct a plant in the community within the next year. When processing would actually take place locally, however, would be a function of when favorable business conditions occur, including a large enough overall quota to make local processing economically viable. APICDA also has a contractual relationship with Peter Pan Seafoods regarding the PQS that Peter Pan qualified for through their St. George-based operations, although the specifics of that contractual relationship remain confidential.

Essentially, while the regionalization feature of the BSAI crab rationalization program has not, to date, served to retain (or reinstate) crab processing in St. George, it has served to direct revenues to the community that likely otherwise would have gone elsewhere. Importantly, however, no long-term agreement is in place to assure continued public revenue returns to St. George.[9] In general, total revenues have decreased markedly since the days of crab processing in the community. The total of all revenues shows annual declines (except for a pause in 2000–2001) from $2.6 million in 1999 to $536,674 in 2005, before increasing to $835,657 in 2006.

1.3.9 Other Alaska Communities

Beyond the communities listed individually in Sections 1.3.1 through 1.3.8, other Alaska communities are engaged in the rationalized BSAI crab fisheries in a number of different ways. As noted in Section 1.2, over the 10-year period of 1998 through 2006/2007, catcher vessels participating in the now-rationalized crab fisheries were owned by individuals or entities in 14 different communities. As discussed in that section, however, none of these communities, with the exception of Kodiak, have had a sufficient number of vessels post-rationalization fleet consolidation to allow disclosure of harvest, such that pre- and post-rationalization harvest comparisons cannot be made. In terms of initial catcher vessel owner quota allocations, only 10 Alaska communities had any residents receive quota. In addition to the communities whose residents received catcher vessel owner quota as already noted in the above summaries (Unalaska/Dutch Harbor, King Cove, Kodiak, and Sand Point), the other communities are Anchorage, Dillingham, Homer, Petersburg, Seldovia, and Yakutat. Of these, only Anchorage, Dillingham, Homer, and Petersburg had more than one resident receiving initial catcher vessel owner quota allocation for any individual rationalized BSAI crab fishery. Within the rationalized crab fisheries that have been open in the years immediately preceding rationalization, or in the post-rationalization years, eight unique Anchorage residents were issued initial quota allocations in each of the Bristol Bay red king crab (south), Bering Sea snow crab (north) and Bering Sea snow crab (south), and Bering Sea Tanner[10] fisheries, which was the highest concentration of quota in any Alaska community outside of Kodiak.

As shown in the tables in Section 1.2, Anchorage catcher vessel owner quota holders have increased markedly since the initial allocation as measured by IFQ allocations for the 2008/2009 season, both in terms of absolute numbers and the relative percentage of total catcher vessel owners quota held for several of the fisheries, while Dillingham still has no more than two resident catcher vessel owner quota holders, and Seldovia and Yakutat have no more than one resident catcher vessel owner quota holder in any one of the rationalized fisheries. As of the 2008/2009 season, Homer has up to five catcher vessel owner quota holders in some of the fisheries (but only up to four in currently open fisheries), while Petersburg has up to three. Anchorage, with far fewer initial allocation catcher vessel owner quota holders than Kodiak is now approaching Kodiak in the total number of quota holders in some of the fisheries (e.g., 23 Anchorage catcher vessel owner quota holders in the Bristol Bay red king crab [south] fishery

[9] It is assumed, however, that the recent acquisition of PQS by APICDA Joint Ventures will return crab processing to the community (and which may, in turn, act as a catalyst for multi-species processing efforts).

[10] After an initial allocation of Bering Sea Tanner shares, the fishery was split into Bering Tanner East and Bering Tanner West fisheries during the first year of the program, but some transfers occurred prior to this change. Six Anchorage residents received initial allocations in the redesignated Bering Tanner East and six received allocations in the Bering Tanner West fisheries.

versus 26 Kodiak owners), and clearly has seen disproportionate aggregation of quota compared to other communities.

In terms of the catcher vessel captain/crew quota share initial allocations, 12 Alaska communities had residents who received C share allocations. In addition to the communities whose residents received an initial allocation of C share quota as already noted in the above summaries (Unalaska/Dutch Harbor, King Cove, Kodiak, and Sand Point), these are Anchorage, Homer, Kenai, Petersburg, Sitka, Soldotna, Valdez, and Wasilla). Of these, none had more than one resident receive C share quota in any individual fishery except for Anchorage and Homer. As of the 2008/2009 season, neither Sitka nor Valdez had any remaining C share quota holders (except for one Valdez resident holder of St. Matthews blue king crab shares, a currently closed fishery) while Cordova was added to the list with one quota holder in six of the fisheries or designated fishery regions (of which two, St. Matthews blue north and St. Matthews blue south, are currently closed); all of the other communities (besides Anchorage and Homer) remained at no more than one resident C share quota holder in any individual fishery. Except for an increase of one holder of Bristol Bay red king crab (south) C shares, the number of unique C share owners in Anchorage has either remained the same or declined in each of the rationalized crab fisheries since the initial allocation, a very different pattern than is seen for ownership of catcher vessel owner quota shares. In the case of Homer, there have been increases of one to five owners of C shares in the Bristol Bay red king crab (south) and both the Bering Sea snow crab (north) and the Bering Sea snow crab (south) fisheries.

It is known that catcher vessel crab crew members were and are dispersed among multiple Alaska communities as well. Given the lack of reliable crew information, however, it is not possible to say whether the patterns directly mirror those for vessel participation, catcher vessel owner quota distribution, or catcher vessel captain/crew quota distribution, or follow their own pattern.

Among Alaska communities, BSAI rationalized crab catcher processor owner quota is held exclusively by Anchorage residents. At the time of initial allocations, there was one unique catcher processor owner quota holder in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, and Bering Tanner West fisheries, with quota holdings ranging between 3.5 and 4.4 percent of the total catcher processor owner quota for these fisheries (the balance being held in Washington state). As of the 2008/2009 season IFQ allocations, there were two unique Anchorage resident holders of catcher processor owner quota in the Bristol Bay red king crab, Bering Tanner East, and Bering Tanner West fisheries, and three in the Bering Sea snow crab fishery, with quota holdings ranging between 7.0 percent to 9.1 percent of the total catcher processor owner quota for these fisheries (again with the balance being held in Washington state). Catcher processor captain/crew quota within Alaska was and is exclusively concentrated in Anchorage and Kodiak. There is one Anchorage resident catcher processor captain/crew quota holder in each of the Bering Tanner East and Bering Tanner West fisheries; Anchorage holdings are 5.2 percent of the total catcher processor captain/crew holdings for each fishery and this figure was the same in the initial allocation as for the 2008/2009 season IFQ allocation. Two Kodiak residents received initial allocations of catcher processor captain/crew quota for the Bristol Bay red king crab fishery and while that number was the same for the 2008/2009 season IFQ allocation, the percentage of the total catcher processor captain/crew quota for the overall fishery declined from 10.9 percent to 0.3 percent between the initial allocation and the 2008/2009 season IFQ allocation. All catcher processor captain/crew quota

other than that held by residents of Anchorage and Kodiak is held by residents of Washington State or residents of states other than Alaska, Washington, and Oregon.

CDQ communities represent another type of engagement with rationalized BSAI crab fisheries. In general, CDQ entities benefited from the implementation of crab rationalization due to the increase in CDQ quota share in the initial allocations. Details of the impacts of the implementation of the BSAI crab rationalization program on CDQ groups are discussed elsewhere in this 3-year post-implementation review. Additionally, as noted in Section 1.2.6, APICDA has gained some processor quota for EIA and WAI golden king crab as a result of processor ownership changes, with the result that formerly Unalaska-based shares may be processed in Atka in the future.

One other community, False Pass, is known to have experienced at least some other types of impacts related to crab rationalization. A small community (population 64 in 2000 according to the U.S. Census and estimated to be 46 in 2007) on Unimak Island in the AEB, False Pass does provide some support to commercial fishing fleets through a local fueling operation and a pot storage business, the latter of which is owned by the Isanotski Corporation, the local ANCSA village corporation. According to an earlier study (Knapp and Lowe, 2007), the pot storage business experienced a decrease in sales of $29,820 between fiscal year (FY) 2005 and FY 2006. According to an interview with a senior corporation leader for this project, the pot storage business is currently (2008) losing money but is kept open because it provides employment for a local resident corporation shareholder (although this person is working fewer hours and has a lower income from the business than was the case prior to rationalization). There has also been a decrease in city revenues from a decline in the number of pots moving across the city dock that has accompanied crab rationalization. According to the mayor, additional revenues accrued to the City of False Pass in past years from a floating processor processing red king crab within the city limits, but that reportedly has not occurred in recent years.

1.3.10 Seattle and Other Non-Alaska Communities

As described in the Seattle community profile in the *BSAI Crab Fisheries Final Environmental Impact Statement Social Impact Assessment* (NOAA 2004, Appendix 3), Seattle is the community most engaged in the BSAI crab fisheries, if gauged by the sheer number of locally owned vessels participating in the fisheries as a whole. As described earlier, post-rationalization volume or value harvest data for the Seattle-Tacoma CMSA cannot be broken out separately from the data for the communities in the rest of the state of Washington due to data confidentiality restrictions (based on the low number of vessels from elsewhere in Washington participating in the individual fisheries). With the single exception of the Bristol Bay red king crab fishery (at five vessels), during the 2006/2007 season no more than two vessels owned by Washington residents outside of the Seattle-Tacoma CMSA participated in any of the other BSAI rationalized crab fisheries.

As described above, the Seattle fleet did experience consolidation similar in proportion to that seen for the crab fleet as a whole, and annual average harvest values, as a proportion of the total harvest values, were relatively unchanged pre- and post-rationalization for Washington vessels in the Bristol Bay red king crab fishery. For the Bering Sea snow crab fishery, however, particularly in 2006/2007, Washington vessels did not harvest as high of a proportion of the total fishery than was previously the case (but still accounted for slightly over half of the total fishery

harvest even in 2006/2007, down from an average of about two-thirds of the annual harvest in the years leading up to rationalization).

As detailed in earlier community profiles, Seattle is the location of regional if not company headquarters for a number of the processing firms engaged in the BSAI crab fisheries. It is also a major support service center for the fleet, both in terms of providing services directly and as the headquarters for a number of firms that provide support services out of Alaskan ports. While no adverse social impacts related to changes in processing firms under rationalization are known, the consolidation of the fleet likely affected a range of Seattle-based support businesses. As described in the earlier community profile, crab fishery support activity takes a variety of forms and does not appear to be heavily concentrated in any one area of Seattle. As a result, no localized social impacts resulting from BSAI crab rationalization are thought to have occurred, although clearly fewer crab crew jobs formerly filled by Seattle residents are available and at least some volume of Seattle-based or Seattle-managed support service work associated with the crab fleet has been lost.

Also, as described in earlier profiles, Seattle is the home of a number of fishery-related organizations, including vessel-oriented entities, such as the United Catcher Boats, and crew-oriented entities, such as the Deep Sea Fishermen's Union of the Pacific (DSFU), that have an interest in BSAI crab fishery issues. According to its president, although the DSFU has traditionally been a set line gear-oriented organization, it enlarged its scope to allow inclusion of crabbers as associate members in 2000/2001. Reportedly, this broadening of the base of the DSFU was both logical and desirable due to previous experiences with fixed gear and IFQ issues similar to those being faced by crab crew, including fleet consolidation and quota share allocation/acquisition, along with a specific goal of increasing the DSFU membership base. Most of the membership of the DSFU is reportedly from the Pacific Northwest, but targeted recruiting efforts in Unalaska/Dutch Harbor and Kodiak have specifically increased Alaska crab-related membership in recent years and the DSFU has become actively involved in crab crew issues before the NPFMC.

According to information contained in the *BSAI Crab Fisheries Final Environmental Impact Statement Social Impact Assessment* (NOAA 2004, Appendix 3), communities in Oregon participated in the pre-rationalization BSAI crab fisheries primarily through ownership of catcher vessels. Following the implementation of rationalization, the number of Oregon vessels participating declined sharply (as shown in detail in Table A1-2 in Attachment 1). Due to parallel sharp declines in participation of vessels from elsewhere in the United States (that is, outside of Alaska, Washington, and Oregon), confidentiality restrictions allowed for a display of either Oregon vessel information (but not a fishery total) or a combined Oregon and other U.S. total (allowing a fishery total to be displayed), but not both. In this case, the option of showing of fishery total was selected due to its greater utility in showing overall fisheries trends. Although this limits the analysis specifically for Oregon, the known previous patterns of crab fishery engagement and limited interaction with industry participants would suggest that no substantial social impacts accrued to Oregon communities as a result of BSAI crab rationalization, although it is likely that some crew job loss did occur.

1.4 OTHER ISSUES

The pre-rationalization *BSAI Crab Fisheries Final Environmental Impact Statement Social Impact Assessment* (NOAA 2004, Appendix 3) identified a number of other, less direct, potential social impact issues that could be anticipated to accompany crab rationalization. These included skipper and crew issues, processing employment, changes in harvester and processor relationships, community preclusion issues, and community divisiveness.

- Skipper and crew issues have proven to be among the most problematic of crab rationalization social impact issues for at least a few communities, including King Cove and Kodiak, but they appear to be less of a concern in most other Alaska communities, based on a number of factors, including a relative lack of historical participation in the harvest sector of the fishery or continuing access to post-rationalization crew positions through CDQ entities, among others. Beyond quota equity concerns, crew employment has been seen by at least some as less attractive post-rationalization than it was pre-rationalization for the reasons described above. A stand-alone ethnographically based analysis of the post-rationalization restructuring of commercial crew member opportunities in the BSAI crab fisheries, not a part of the 3-year review directed by the NPFMC, is being completed as a separate research effort through the Alaska Fisheries Science Center (Sepez, Lazrus, and Felthoven, in draft).

- Processing employment has not proven to be a salient issue due, at least in part, to the transient nature of most crab-specific processing employment and/or the changed nature of processing under a rationalized system.

- Concerns over changes in harvester and processor relationships appear to have mitigated at least to a degree by the arbitration system that has been implemented under rationalization, as discussed elsewhere.

- Community preclusion issues remain a concern for at least some communities, with the cost of obtaining processor quota shares (or the effective unavailability of processor quota shares) being perceived as a potential bar to future entry or, in the case of Adak, future expansion (or a return to levels seen immediately prior to rationalization).

- Crab rationalization remains a divisive issue within and between communities. The basic structure of crab rationalization runs counter to strongly held opinions on the desired future state of fishery management for some communities, or groups associated with some communities. A number of people and organizations remain fundamentally philosophically opposed to rationalization programs independent of apparent material benefits from the program. Particularly philosophically troubling to some is the perceived inequity of benefit that derives to absentee ownership through the quota leasing process, especially when the economic return to crew members for the harvest of those shares has been dramatically reduced.

CHAPTER 2.0
UPDATED COMMUNITY PROFILES

As noted in Chapter 1, as part of this crab rationalization social impact assessment effort, fishery community profiles for a number of BSAI crab communities have been updated to describe the range, direction, and order of magnitude of social and community level impacts associated with the relevant crab fisheries on a community-by-community basis. Chosen for this community-level analysis were those Alaskan communities characterized in the pre-implementation crab rationalization social impact assessment (NOAA 2004, Appendix 3). These are Unalaska/Dutch Harbor, Akutan, King Cove, Kodiak, Sand Point, Adak, St. Paul, and St. George.

Also as noted in Chapter 1, updated, post-BSAI crab rationalization profiles for four of these communities (Sand Point, Adak, St. Paul, and St. George) were completed in June 2008 under the title *Comprehensive Baseline Commercial Fishing Community Engagement and Dependency Profiles: Adak, St. George, St. Paul, and Sand Point, Alaska* (EDAW 2008). Post-crab rationalization fieldwork was conducted in each of these communities and each of these profiles contains information on community-specific effects of crab rationalization. As these comprehensive profiles are readily available[11] for review, and have recently been distributed to the NPFMC at its constituent bodies, they are incorporated here by reference rather than reproduced in this document. Key findings from these profile efforts have been summarized in Chapter 1.

In this chapter, updated fishery community profiles with a focus on crab dependence and BSAI crab rationalization impacts are presented for Unalaska/Dutch Harbor, Akutan, King Cove, and Kodiak. As noted in Chapter 1, the earlier (pre-rationalization) produced *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak* (EDAW 2005) provide the building blocks for this effort. The updates contained in this document follow the organizational structure of the earlier profiles, which, in turn, built upon the pre-implementation crab rationalization social impact assessment (NOAA 2004, Appendix 3). Brief fieldwork was conducted in each of these communities as part of the update process. In-person interviews took place in Unalaska/Dutch Harbor on May 11-12 and May 14-16, 2008, and in Akutan on May 13, 2008. Fieldwork in King Cove took place May 17-21, 2008. Fieldwork in Kodiak took place June 23-28, 2008. Phone contacts and interview follow-ups with entities from each of the communities occurred both before and after fieldwork. In general, field efforts focused on two major undertakings. First was re-contacting entities interviewed during pre-rationalization social impact assessment work to provide a framework for direct pre- and post-rationalization comparisons to the extent feasible. This was also done, in part, to help control for recall bias. Second was updating community context information relevant to understanding the relation of the overall community socioeconomic structure to local harvesting, processing, and support service sectors, as well as local government entities and revenues, associated with fisheries activities in general and the relevant crab fisheries in particular.

[11] Available at http://www.fakr.noaa.gov/npfmc/current_issues/crab/crabcoop.htm and then selecting Community Profiles 08/08 Volume 2: Sand Point, Adak, St. Paul, St. George.

2.1 UNALASKA/DUTCH HARBOR

Unalaska is located approximately 800 miles southwest of Anchorage and 1,700 miles northwest of Seattle. Unalaska is the eleventh 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 (December 26, 1988).

2.1.1 Overview

Unalaska is in a unique position with respect to the Bering Sea and Aleutian Islands (BSAI) fisheries. It is the site of both the most intense direct and indirect fishery economic sector activity among all the communities in the region. 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, as well as to several individual fisheries. 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.

2.1.2 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 twentieth century. This growth and diversification was directly attributable to the commercial fishing industry.

2.1.2.1 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.[12] Table 2.1-1 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 the pollock fishery, which has proven to be a local economic mainstay, in particular.

Table 2.1-1. 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

*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. Census Bureau.

Table 2.1-2 provides local population counts on an annual basis for the years 1990 through 2006. As shown, since 1993, the population remained over 4,000 until 2006, when it returned to 1991–1992 levels. With the ebb and flow of processing activities, annual population fluctuations are common.

[12] 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. Census Bureau 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. U.S. Census Bureau 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 2.1-2. Unalaska Annual Population, 1990–2003

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
2002	4,051
2003	4,388
2004	4,366
2005	4,297
2006	3,940

*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 Fiscal Year 1991 in city documents).

Source: City of Unalaska spreadsheets, supplied by Unalaska City School District, December 2001 and December 2004; and Finance Department, May 2008.

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 A and B seasons, which themselves overlap with other seasons that generate a substantial amount of processing activity (e.g., the cod and opilio processing that occurs around and during pollock A season). Outside of these peaks, plants typically employ 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" or "additional service 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 otherwise constitute a population that may utilize services provided out of Unalaska in one form or another (e.g., potential patients for emergency medical services care). Table 2.1-3 provides an estimate of the direct fisheries harvesting and processing component of this floating population for 2007. Although these estimated 5,633 individuals are not true residents of Unalaska, this "floating" or "additional service" 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.

Table 2.1-3. Estimates of Direct Fisheries Related "Floating Population" of the Community of Unalaska, 2007

Vessel Type	Estimated number of vessels[1]	Average crew size[2]	Floating population
Floating Processors			
Motherships	3	133	399
Inshore Floating Processors	3	100	300
Trawlers			
Catcher Vessels	115	4.5	517.5
Catcher/Processors - Surimi/Fillet[3]	17	101	1,717
Catcher/Processors - Head & Gut[3]	23	35	805
Longline			
Catcher Vessels	20	5	100
Catcher/Processors	38	16	608
Crab/Pot			
Catcher Vessels	195	5.5	1,072.5
Catcher/Processors[4]	8	11	88
Jig	13	2	26
Total Direct Fisheries-Related Floating Population			5,633

[1] Vessel counts include all vessels with landings in the BSAI during 2007. However, catcher vessel counts exclude vessels that had only Individual Fishing Quota (IFQ) halibut and sablefish landings.

[2] All catcher processor crew figures are full-time equivalents (FTEs) are based on observer data. Estimates of employment on catcher vessels and are based on crew-size factors for each vessel class, based on previous studies and interviews with knowledgeable members of the industry.

[3] Trawl catcher processor production data are from 2007 Weekly Production Reports. The surimi/fillet trawl catcher processor category includes 8 primarily surimi-oriented vessels with an average crew size of 108 and 9 primarily fillet-oriented vessels with an average crew size of 79.

[4] Includes 7 catcher processors with 2006/07 BSAI federal crab catcher processor permits, and 1 additional catcher processor with groundfish landings only.

Note also that table does not include over 200 halibut and sablefish IFQ hook-and-line vessels that work in the Bering Sea, as the large majority of these are part of local small boat fleets and the residents of Unalaska who participate in this fishery would already be counted in the standard Unalaska population counts.

Source: NPFMC; ADFG Fish Tickets (2007 Catcher Vessel counts); NMFS Weekly Production Reports (2007 Catcher Processor and Mothership Counts and production data).

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 the cargo vessel freighter/tramper 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]. The current validity of this estimate is unknown.) 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.

The characterization of Unalaska's "nontransient" population has its own challenges, 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. "Semipermanent" or "long-term transient" residents have been described as 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 "semipermanent" 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 more likely than not 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 "semipermanent" or "long-term transient" resident are not precise terms, nor do they necessarily correspond to administrative/regulatory decisions about "official" residency (e.g., whether one is classified as an "Alaska resident" for employment statistical reporting or taxation purposes) nor do they correspond to U.S. Census Bureau count methodology,[13] 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,

[13] 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. Census Bureau 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 North Pacific Fishery Management Council (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.

and that a number of other leaders in the community who currently hold positions in nonprocessing 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 as frequently among nonmanagement workers within the processing sector but clearly does occur to some degree.

2.1.2.2 Ethnicity

Unalaska may be described as a plural or complex community in terms of the ethnic composition of its population. Although Unalaska was traditionally an Aleut community, the ethnic composition has 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.[14] 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 Euroamericans, Filipinos, Vietnamese, Koreans, and Hispanics. The Euroamerican 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 the Asian/Pacific Islander population (over 30 percent by 2000) is closely associated with the increasingly residential nature of the seafood processing sector workforce. Further, the specific makeup of the local processing workforce also varies at least over the short term with world events that result in economically or politically based immigration to the United States, as processing work often represents a means of entry into the American employment economy for recently arrived individuals. An example of a (so far) short-term fluctuation has been a reported increase in the number of processing workers from eastern African nations in the early 2000s. The ethnic composition of Unalaska's population for the census years 1970, 1980, 1990, and 2000 appears in Table 2.1-4.

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 through 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

[14] 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 2.1-4. Ethnic Composition of Unalaska's Population: 1970, 1980, 1990, and 2000

Race/Ethnicity	1970		1980		1990		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White	56	31.0%	848	64.1%	1,917	62.1%	1,893	44.2%
Black or 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. Census Bureau 1990, 2000.

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 Community Development Quota (CDQ) program. While neither of these undertakings excludes non-Aleuts, Aleut individuals are disproportionately actively involved (relative to their overall representation in the community population).

During recent field interviews for this project and other North Pacific Fishery Management Council (NPFMC) projects, a number of persons, including local governmental officials and individuals from various private sector enterprises, commented that it appeared to them that there were fewer long-term residents overall in the community in the post-2000 period than in the preceding years, although there are no hard data available to verify this. Speculation included that with the apparent slowdown in the local support service economy that was either initiated or accelerated by the American Fisheries Act (AFA) related cessation of the race for fish within the pollock fishery, there has been some out-migration among the permanent population (along with the nonappearance of some former seasonal regulars in the community). Again, there is no quantitative information available to check this speculation. Anecdotal evidence earlier 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), but a softness in the housing market that followed AFA groundfish rationalization had all but disappeared by the time of fieldwork for this project (2008).

2.1.2.3 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 2.1-5 portrays the changes in proportion of males and females in the population for the years 1970, 1980, 1990, and 2000.

Table 2.1-5. Population by Age and Sex, Unalaska: 1970, 1980, 1990, and 2000

Attribute	1970		1980		1990		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
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. Census Bureau 1990, 2000.

Census data from the period 1970 through 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 underrepresented 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 2.1-6. 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 generally increased from the late 1980s to the late 1990s before dipping for a few years and then increasing again to around 400 students annually from 2003 to 2008, 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.[15] In late 2001, the school was significantly expanded, including construction of a new elementary school/ administrative offices structure on a noncontiguous 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. In subsequent years, enrollments have again increased, with 2004 to 2006 enrollment levels being nearly triple that seen at the low point in the mid-1980s. Enrollment figures for 2007 and 2008 were steady if slightly lower than the 2004 to 2006 figures, and while school counts in general are relatively stable for the most recent 6 years (2000 to 2008), according to school administrators, there is still quite a bit of

[15] The community of Unalaska still does, however, rank behind a number of other major Alaska communities in population to enrollment ratios. Using October 2007 average daily membership and the 2006 DCEC certified population figures, Unalaska has a population to enrollment ratio of 10.16:1. Anchorage, Bristol Bay, Cordova, Craig, Dillingham, Kodiak, Valdez, and Yakutat all have ratios less than 6:1, and Kenai has a ratio of just over 6:1. If Unalaska were to match the average of these other comparison communities, enrollment would be at approximately 744 rather than 388 (Unalaska City School District, May 2008, personal communication). This divergence of population and enrollments balance is another indicator that, while things are changing, Unalaska remains more of a "work site" than a community of rooted residence for a comparatively large proportion of its residents.

Table 2.1-6. Unalaska City School District Enrollment, Fiscal Years 1978–2005

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	153
FY 1989	188
FY 1990	204
FY 1991	258
FY 1992	304
FY 1993	330
FY 1994	359
FY 1995	356
FY 1996	353
FY 1997	375
FY 1998	380
FY 1999	353
FY 2000	352
FY 2001	352
FY 2002	369
FY 2003	393
FY 2004	399
FY 2005	399
FY 2006	398
FY 2007	386
FY 2008	388

Note: Fiscal year designation refers to the calendar year in which the school year ended (e.g., FY 1978 refers to the 1977–1978 school year).
Source: Spreadsheet supplied by Unalaska City School District, May 2008.

turnover that occurs within these numbers as a result of families moving into and out of the community tied, in part, to fluctuations in the fishing industry and fishing-related sectors of the economy. Within a given year, attendance also varies based on fishery cycles to that extent that some processing families visit families overseas during those periods when the plants shut down, which do not always coincide with the school calendar. Another example of the local commitment to the local educational system, however, was provided by a school district employee who noted that local contributions provide approximately 46 percent of the school's general fund, not including special appropriations from the city that totaled an additional $879,000 in fiscal year (FY) 2008.

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 for the 2000, 2002, 2004, and 2006 school years and shown in Table 2.1-7. Information shown is for the parent designated as the "primary wage earner."[16] As shown, the largest single sector for the primary wage earners has varied from year to year, but it is important to note that "fish processing" and "fishing support" when added together accounted for a large percentage each year. According to school staff, the assignment of individual employers/entities to the various categories (especially the "fishing support" category) is not exact (it is a judgment call made by the school administrator) but gives an indication of the relative strength of ties of the different sectors to the school population. (Unalaska is very different in this respect from other major processing communities in the region. In Akutan and King Cove, for example, there are few if any students at either school who come from processing worker families.)

Table 2.1-7. Parent Employment by Sector, Unalaska City School District, Fiscal Years 2000, 2002, 2004, and 2006

Parent Employment Sector	2000		2002		2004		2006	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Fish Processing	62	17.66%	77	21.04%	96	25.33%	80	20.10%
Fishing Support	63	17.95%	55	15.03%	52	13.72%	78	19.60%
Retail/Restaurant/Services	58	16.52%	61	16.67%	73	19.26%	76	19.10%
Unemployed/Self-Employed	12	3.42%	14	3.83%	20	5.28%	22	5.53%
Government/Public	101	28.77%	123	33.61%	90	23.75%	102	25.63%
Transportation/Freight	55	15.67%	36	9.84%	48	12.66%	40	10.05%
Total	351	100.00%	366	100.00%	379	100.00%	398	100.00%

Source: Unalaska City School District Spreadsheet, May 2008.

In terms of ethnicity of students, the attributes of the FY 2008 enrolled students vary somewhat from the general population as gauged by the 2000 census. Hispanic representation was virtually equal, but Asian/Pacific Islander individuals were a larger component of the school enrollment than of the general population (35 versus 31 percent, respectively). Alaska Native/American Indian individuals made up 18 percent of the school population, but only about 8 percent of the general population (consistent with the observation that Alaska Natives tend to make up a disproportionately large percentage of the lifetime residents of the community), while white individuals made up 33 percent of the school population and 44 percent of the total population (suggesting disproportionate labor migration into the community). As of FY 2008, 37 percent of the school's students (145 of 387 students) were classified as having "limited English proficiency."[17] According to earlier (2004) interviews with school staff, the Unalaska City School District was (then) 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 spurred an increase in enrollment of students from smaller villages in the region. For the most part, these were individuals who chose to stay with relatives in Unalaska to take advantage of the local educational opportunities.

[16] The school did track employment for both parents for the 2004 school year, but has not done so for other years.

[17] The "limited English proficiency" classification has replaced "English as a second language" classification as a standard measure of language use and proficiency as it is a more direct measure of potential linguistic challenges in the classroom.

2.1.2.4 Housing Types and Population Segments

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 2.1-8, 52 percent of the population lived in group housing in 1990 and 51 percent of the population did so in 2000.

Table 2.1-8. 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. Census Bureau 1990, 2000.

The population residing in group housing in the community is demographically quite different from the population of the community in non-group housing. Table 2.1-9 provides information on group housing and ethnicity for Unalaska for 1990 and Table 2.1-10 provides similar information for 2000. In 1990, the total minority population proportion was substantially higher in group quarters (49 percent) than in non-group quarters (31 percent). In 2000, the total minority population in group quarters was 72 percent, with the analogous figure being 45 percent in the non-group quarters population. Beyond a general growth of minority populations from 1990 to 2000 as a proportion of population in both types of housing (and a greater difference between housing types in 2000 than in 1990), the minority population distribution between and within housing types changed substantially in the 1990 through 2000 period. For example, "white" residents of Unalaska comprised 54 percent of the group quarters population in 1990, but only 30 percent in 2000 (and declined, to a lesser but still substantial degree, from 71 percent to 59 percent of the population within non-group quarters housing). Although demographic categories changed somewhat between the 1990 and 2000 census, some relatively large changes

Table 2.1-9. 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 or African American	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. Census Bureau 1990.

Table 2.1-10. Ethnicity and Group Quarters Housing Information, Unalaska, 2000

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	1,893	44.19%	665	30.34%	1,228	58.73%
Black or African American	157	3.67%	146	6.66%	11	0.53%
Alaska Native/Native American	330	7.71%	62	2.83%	268	12.82%
Native Hawaiian/Other Pacific Islander	24	0.56%	22	1.00%	2	0.10%
Asian	1,312	30.63%	931	42.47%	381	18.22%
Some Other Race	399	9.32%	318	14.51%	81	3.87%
Two Or More Races	168	3.92%	48	2.19%	120	5.74%
Unknown	0	0%	0	0%	0	0%
Total	4,283	100.00%	2,192	100.00%	2,091	100.00%
Hispanic*	551	12.86%	372	16.97%	179	8.56%
Total Minority Population	2,503	58.44%	1,568	71.53%	935	44.72%
Total Non-Minority Population (White Alone, Not Hispanic or Latino)	1,780	41.56%	624	28.47%	1,156	55.28%

* "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. Census Bureau 2000.

are readily apparent. For example, in 1990, the "Asian or Pacific Islander" category accounted for 27 percent of group quarters population but had risen to 42 percent by 2000. In general, in 2000 Unalaska had a substantially greater minority population in absolute and relative terms than it did in 1990, and this is readily apparent within the group quarters population that is largely associated with seafood processing workers.

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 or, in a lesser number of cases, in single dwellings or duplexes leased by employers. 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 seafood company processing workers 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. In the past, 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, at least in the not-too-distant past, one could

hear claims made for the virtue of particular points of view based on whether individuals own homes and pay property taxes in the community.

Unalaska's housing market *per se* has changed in the recent past. 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, however, by 2000, housing and rental prices had not appreciably dropped; however, demand has slackened considerably such that there are no longer waiting lists maintained by some of the larger housing owners. According to the City of Unalaska appraiser and planning staff at the time, home sales were slower than in the past, and there was some concern about declines in value, but those concerns had not yet been realized. Also according to the city, although rental demand was off, rents had not yet begun to drop in response to decrease in demand. This "softening" of the housing market was, at the time, directly attributed by most to then-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. A housing market survey conducted by the city and completed May 2003 (City of Unalaska Planning Department Spreadsheet) showed mixed changes in housing costs between 2000 and 2003. The most recent residential housing rent survey completed for the city (MacSwain Associates, June 2007) found very few vacant dwelling units in the community (1 two-bedroom apartment and 3 two-bedroom apartments) and that, in general, demand for residential housing is greater than the available supply. Survey respondents indicated that tenant expenses varied from one property type to another, but a majority of apartment rents required the tenant to pay for water, sewer, electricity, telephone, and cable, while landlords typically paid for heat. In contrast, a majority of single-family residential dwelling and duplex rental agreements stipulate that the tenant pay all utilities. Survey respondents indicated an overall vacancy rate of less than 2 percent with a wait list of potential tenants the norm.

The information contained in the 2007 housing rent survey, as well as information obtained during interviews in May 2008, would indicate that any softening of the housing market associated with earlier (AFA) fishery rationalization efforts has dissipated and would further suggest that BSAI crab rationalization itself did not result in a softening of the Unalaska housing market or, if it did, other market forces have offset this effect.

Another recent change in housing mentioned in earlier (2004) 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 in the community, 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, and the fact that support sector businesses are using many fewer seasonal employees than in the past. While there are no systematic data available to document this common assertion, the City of Unalaska has discontinued holding long-term housing leases, which formerly was a common practice due to the local housing shortage.

Table 2.1-11 displays basic information on community housing, households, families, and median household and family income for Unalaska in 2000. The figure for vacant housing units is consistent with anecdotal evidence regarding market demand softening.

Table 2.1-11. Selected Household Information, Unalaska, 2000

Community	Total Housing Units	Vacant Housing Units	Total House-holds	Average Persons per House-hold	Median House-hold Income	Family House-holds	Average Family Size	Median Family Income
Unalaska	988	154	834	2.51	$69,539	476	3.27	$80,829

Source: U.S. Census Bureau 2000.

2.1.3 Local Economy and Links to Commercial Fisheries

In the late 1970s and early 1980s Unalaska prospered significantly from the king crab fishery. The crab boom resulted in a dramatic increase in both the volume of landings and the number of 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 diversified their businesses in order to survive economically. One of the avenues of diversification was the pollock fishery, which proved an economic mainstay for the community in subsequent years. While truly local vessels are comparatively few and of a relatively small scale, local processing plants are large and receive landings from vessels from elsewhere in Alaska and from the Pacific Northwest (and at least a few from further afield). Economic activity in the community is cyclic, with busy periods coinciding with major fishery openings and closings. Table 2.1-12 provides a list of dates of openings as of 2008 for the major commercial fisheries in the area.

Table 2.1-13 shows the volume and value of fish landed at Unalaska over the period 1977 through 2006. This span encompasses the high years of the king crab fishery in the late 1970s and the growth of the pollock fishery thereafter, along with many other fisheries changes over the years. 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.[18] In 2000, Unalaska dropped to second in value of landings behind New Bedford, Massachusetts, and has remained there in the subsequent years.[19]

[18] 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).

[19] In 2006, New Bedford value of landings totaled $281.4 million on a much lower volume (168.3 million pounds) than landed in Unalaska.

Table 2.1-12. Bering Sea/Aleutian Islands Major Fisheries Openings, 2008

Species	Opening
Eastern Aleutians Bairdi Tanner Crab	January 15
Opilio Tanner Crab	January 15
Brown King Crab	August 15
Bairdi Tanner Crab	October 15
Bristol Bay Red King Crab	October 15
Pribilof Blue King Crab	October 15
St. Matthew Blue King Crab	October 15
Pribilof Red King Crab	October 15
Foot/Bait Herring	July 15
Halibut IFQ	March 10
Sablefish IFQ	March 10
Pollock AFA Inshore 'A'	January 20
Pollock AFA Inshore 'B'	June 10
Pollock Catcher Processor 'A'	January 20
Pollock Catcher Processor 'B'	June 10
Pollock Mothership 'A'	January 20
Pollock Mothership 'B'	June 10
Atka Mackeral Eastern 'A'	January 20
Atka Mackeral Eastern 'B'	September 1
Atka Mackeral Central 'A'	January 20
Atka Mackeral Central 'B'	September 1
Atka Mackeral Western 'A'	January 20
Aka Mackeral Western 'B'	September 1
Pacific Cod Catcher Processor (trawl) 'A'	January 20
Pacific Cod Catcher Processor (trawl) 'B'	April 1
Pacific Cod Catcher Processor (trawl) 'C'	June 10
Pacific Cod Catcher Vessel (trawl) 'A'	January 20
Pacific Cod Catcher Vessel (trawl) 'B'	April 1
Pacific Cod Catcher Vessel (trawl) 'C'	June 10
Pacific Cod Catcher Processor (hook & line) 'A'	January 1
Pacific Cod Catcher Processor (hook & line) 'B'	June 10
Pacific Cod Catcher Vessel (hook & line) 'A'	January 1
Pacific Cod Catcher Vessel (hook & line) 'B'	June 10
Pacific Cod (pot) 'A'	January 1
Pacific Cod (pot) 'B'	September 1

Note: "Hook & line" is also commonly known as "longline."
Source: Adapted from International Port of Dutch Harbor facilities and services poster, 2008.

Table 2.1-13. Volume and Value of Fish Landed at Unalaska, 1977–2006

Year	Volume		Value		Average Value ($/lb)*
	Millions of Pounds	U.S. Ranking	Millions of Dollars	U.S. 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
2002	908.1	1	136.1	2	0.15
2003	908.7	1	156.9	2	0.17
2004	886.8	1	167.4	2	0.19
2005	887.6	1	166.1	2	0.19
2006	911.3	1	165.2	2	0.18

*Average value derived from volume and value data.
Source: 1977–1979 data from NMFS data as cited in IAI 1991; 1980–1996 data from NMFS data cited in City of Unalaska FY 97 Annual Report (December 1997); 1997–2006 data via personal communication from NMFS Fisheries Statistics and Economics Division, Silver Spring, MD (accessed 5/28/08 through NMFS Website http://www.st.nmfs.gov/st1/ commercial/landings/ lport_hist.html).

The commercial fishery/seafood industry provides a very large component of the employment base in Unalaska. According to the City of Unalaska, in 2006 the top three employers in the community, together accounting for over half of all employment in the city, were all seafood processing firms, a pattern unchanged from 2000 (Table 2.1-14). When other seafood firms (such as Harbor Crown Seafoods) are added, along with firms primarily dependent upon the fisheries, such as stevedoring (including Pacific Stevedoring and Dutch Harbor Services) and shipping (American President Lines, among others), the dependency of Unalaska employment on the fishing industry is even more apparent.

Table 2.1-14. Unalaska Principal Employers, 2000 and 2006

Employer	2000			2006		
	Number of Employees	Rank	Percentage of Total City Employment	Number of Employees	Rank	Percentage of Total City Employment
Unisea, Inc.	688	1	29%	819	1	26%
Westward Seafoods, Inc.	349	2	15%	665	2	21%
Alyeska Seafoods, Inc.	194	3	8%	229	3	7%
City of Unalaska	162	5	7%	178	4	6%
Pacific Stevedoring, Inc.				80	5	3%
Harbor Crown Seafoods, Inc.				78	6	3%
American President Lines, Ltd.	61	9	3%	75	7	2%
Unalaska City School	68	8	3%	73	8	2%
Safeway, dba Eagle Quality Centers				51	9	2%
Dutch Harbor Services, Inc.				48	10	2%
Petro Star, Inc. dba North Pacific Fuel	182	4	8%			
Western Pioneer, dba Alaska Ship Supply	100	6	4%			
Royal Aleutian Seafood	89	7	4%			
Western Power and Equipment	33	10	1%			
Total, top ten employers	**1,926**		**82%**	**2,296**		**74%**

Note: dba = doing business as
Source: City of Unalaska Comprehensive Annual Financial Report, 2007, based on Alaska Department of Labor, Research and Analysis Section average monthly employment, calendar years 2006 and 2000.

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 individuals who have filled city council and mayoral positions in recent years, a number of whom have been employees of local processing firms or businesses heavily reliant on the fishing industry. As of 2008, of the combined seven mayor and city council positions, two are filled with individuals who are employed by or have ownership interest in local processing companies, one is filled by a support service business owner largely reliant on the fishing fleet, and another manages a business that does a significant volume of business with local commercial fishery sectors.

Table 2.1-15 provides summary data on employment and poverty from the 2000 census. As shown, there was virtually no unemployment in 1990, but over 11 percent unemployment in 2000. These numbers should be treated with some caution, however, as it may well be the case that persons counted as unemployed included seafood processing workers temporarily idled between seasons. While this unemployment may have been "real" in the sense that processing workers were present and not actively working when the census was taken, it is most likely an artifact of the timing of the census as processing workers are not typically present in the community when the plant is idle for any extended period of time. That is, under normal conditions, there are no unemployed seafood processing workers present in the community (by design). These workers are transported to and from the community by their employer to meet labor demand at the plant. As part of the employment agreement, seafood processors typically provide room and board for workers, so it is uneconomic to have idled workers at the site unless the plant downtime is relatively brief (i.e., the cost of housing and feeding the employees during the idle interval does not exceed transportation, recruiting, training, and other costs associated

with sending workers out and bringing them back in, including some level of turnover that always occurs in these situations). This pattern has changed somewhat in recent years as at least some seafood processing employees choose to remain on-site during slack periods, according to processing company staff. These individuals enjoy the benefits of living in company housing, and the company enjoys the benefit of having an on-call labor pool available for intermittent small processing runs and a reduction of transportation expenses and logistical challenges involved in bringing people in at the start of a new season.

Table 2.1-15. Employment and Poverty Information, Unalaska, 1990 and 2000

Year	Total Persons Employed	Unemployed	Percent Unemployment	Percent Adults Not Working	Not Seeking Employment	Percent Poverty
1990	2518	26	1.0%	7.8%	186	15.3%
2000	2675	414	11.1%	27.93%	625	12.5%

Source: U.S. Census Bureau 1990, 2000.

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.

2.1.3.1 Harvesting

Community Harvester Quantitative Description

An earlier North Pacific Research Board (NPRB)/NPFMC funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska* (EDAW 2005), included a quantitative characterization of the Unalaska local commercial fishing harvest sector, including detailed information on an annual basis, from 1995 through 2002, of local vessel characteristics, distribution of permit holders, catch and earnings estimates, and landings inside and outside of the community, along with an analysis of the spatial distribution of fishing effort of the local fleet. As updating this information is effort intensive and not central to the current BSAI crab rationalization 3-year review-oriented community analysis, it has not been updated for or included in this community profile. Rather, the more qualitatively oriented and BSAI crab rationalization focused discussion in the next section has been updated.

In regard to local engagement in the BSAI crab fisheries, according to the BSAI crab fishery 1998–2008 dataset,[20] the number of Unalaska-owned vessels participating in the Bristol Bay red king crab fishery declined from four to one in the years immediately preceding the implementation of BSAI crab rationalization, and no locally owned vessels have participated in the fishery since rationalization. In the Bering Sea snow crab fishery, the number of locally owned vessels appearing in the data declined from three to one in the years leading up to rationalization, and one locally owned vessel participated in this fishery in the first year under the rationalized fishery, but none did so in the second year. No other Unalaska-owned vessels

[20] Crab rationalization community analysis dataset compiled from ADFC fish ticket and CFEC gross revenues data and used to generate the tabular data in Chapter 1 and Attachment 1.

have participated in any of the now-rationalized crab fisheries in recent years, either before or after rationalization. This apparent absence of current, direct participation of Unalaska-owned vessels in the rationalized BSAI crab fisheries is consistent with information developed during interviews for this project, and even the low level of prior participation described in the data would appear to overstate participation when compared to information gathered during interviews. (That is, at least some of the vessels that are designated as owned by Unalaska residents in the data are not owned [or crewed] by individuals thought of as full-time community residents by a number of knowledgeable individuals interviewed for this project.) Though a large fishing port, Unalaska is home to a relatively small-scale residential fleet and the local fleet, virtually out of the BSAI crab fisheries prior to rationalization, has been largely unaffected by BSAI crab rationalization itself, at least in terms of direct impacts.

Among the now-rationalized crab fisheries that have been open in recent years,[21] two vessel owners listed as Unalaska residents in the data qualified for initial catcher vessel owner quota share allocations in each of the Bristol Bay Red (south), Bering Tanner East, and Bering Tanner West fisheries, while one vessel owner listed as residing in Unalaska qualified for an initial catcher vessel owner quota share allocation in each of the Bering Sea snow crab (north) and Bering Sea snow crab (south) fisheries. These numbers, and the percentage of overall quota shares held, were the same for the 2008/2009 season Individual Fishing Quota (IFQ) allocation as they were for the initial allocation. (Two vessel owners listed as Unalaska residents were also were initially allocated, and still hold, catcher vessel owner shares in the Pribilof blue and red king crab fisheries, and one vessel owner listed as an Unalaska resident holds catcher vessel owner shares in each of the St. Matthews blue king crab north and St. Matthews blue king crab south fisheries, although these fisheries are not open at present.)

Communities also directly benefit from the harvest sector through participation of residents as crew members as well as through the engagement of vessel owners and permit holders. Beginning in 2000, the Commercial Fisheries Entry Commission (CFEC) has produced estimates of crew members by community, based on the number of permit holders in the community, plus the community residents who have applied for a Crew Member License with the Alaska Department of Fish and Game (ADFG). To the extent that the number of permits held by local residents is apparently overstated (as discussed in detail in an earlier profile [EDAW 2005]), so will the number of local crew positions be overstated, so caution should be exercised when using these data. Table 2.1-16 provides estimates of crew members for Unalaska for all commercial fisheries for the years 2000 through 2006.

[21] Pribilof blue and red king crab fisheries (north and south) and the WAI red king crab fishery have been closed for a number of years, including the 3 years post-implementation of rationalization, and are not expected to reopen in the near future. The St. Matthews blue king crab fisheries (north and south), have also been closed for a number of years, including the 3 years since the implementation of rationalization, but it is considered more likely that this fishery will open in the foreseeable future than the other fisheries currently closed but rationalized crab fisheries.

Table 2.1-16. Estimated Number of Permit Holders and Crew Members from Unalaska/Dutch Harbor 2000–2006

Year	Permit Holders	Crew Members	Total
2000	50	163	213
2001	CFEC did not develop this report for 2001		
2002	53	158	211
2003	54	187	241
2004	58	185	243
2005	64	185	249
2006	47	188	235

Note: The number of permit holders local to Unalaska/Dutch Harbor is likely overstated (see text), which will result in an overstatement of local crew member estimates.
Source: CFEC permit holder and crew member counts by census area and city of residence report, accessed via www.cfec.state.ak.us/Mnu_Summary_Info.htm.

Although good quantitative data are unavailable, Unalaska historically has had few resident crab crew members, just as it has had few resident crab vessel owners, especially when viewed in contrast to its importance as a service and processing port for the BSAI crab fisheries. According to the BSAI crab rationalization database, only one local resident qualified for initial catcher vessel captain/crew share allocations in each of the Bristol Bay red king crab (south), Bering Sea snow crab (north), and Bering Sea snow crab (south) fisheries. Initial allocations of catcher vessel captain/crew quota share were received by two Unalaska residents each in the Bering Tanner East and Bering Tanner West fisheries. No other captain/crew quota shares were received by local residents for any other active BSAI crab fisheries. As of the 2008/2009 season IFQ allocation process, the number of Unalaska residents holding Bering Tanner East and Bering Tanner West catcher vessel captain/crew quota (and the amount held) remained unchanged from the initial allocation, while the Bristol Bay red king crab (south), Bering Sea snow crab (north), and Bering Sea snow crab (south) catcher vessel captain/crew holdings each increased by one Unalaska resident each (to a total of two resident holders each). (Among the currently closed fisheries, one Unalaska resident received an initial catcher vessel captain/crew quota share allocation in the Pribilof blue and red king crab fishery [south]; that level of ownership was unchanged as of the 2008/2009 season IFQ allocation process.) According to multiple interviews with knowledgeable community residents, no full-time Unalaska residents have been known to crew on BSAI crab vessels in recent years, either before or after the implementation of rationalization. Unlike at least two of the other major port communities, King Cove and Kodiak, local crew job loss as a result of the consolidation of the crab fleet that accompanied BSAI crab rationalization is not a salient issue in Unalaska/Dutch Harbor.

Unalaska did not qualify as a CDQ community, but it is an ex-officio member of the Aleutian Pribilof Island Community Development Association (APICDA) CDQ group. This 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 multiple APICDA training and other programs are run because of the size of the population it services in the community. Although theoretically the increase in CDQ quota under both the AFA and, more recently, BSAI crab rationalization, hurt the community as a non-CDQ participant, in the case of the AFA the simultaneously occurring increase in onshore quota appears to have made up the difference. Further, given that CDQ partnerships with onshore and offshore sector participants directly or indirectly benefit the community through either local

economic activity or payment of taxes in one form or another, the consequences of the CDQ quota increase on Unalaska were likely minor. In the case of BSAI crab rationalization, proportionately more crab appears to have been processed in Unalaska following rationalization, on average, than in the years leading up to rationalization, so the increase in CDQ quota does not appear to have adversely affected Unalaska in this case either.

Community Fleet Characterization

The vast majority of fish landed in Unalaska both in terms of volume and value is 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 the fleets of some other fishing communities with much smaller populations 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

A portion of the local small vessel fleet, among them vessels ranging from 18 to 68 feet in length, is represented by the Unalaska Native Fisherman's Association. Active membership in the association varies widely from year to year based on current fishery issues. 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. The association maintains a majority of Alaska Native board members in order to retain access to a number of funding sources. 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.

As noted earlier, there is no direct participation in the rationalized BSAI crab fisheries by vessels owned by local residents. Local resident-owned vessels also do not participate in the pollock fishery, which is a dominant local fishery in terms of local processing and revenues generated for the community, but the vessels do participate in the local cod, halibut, and crab fisheries on a small scale (including the Eastern Aleutian District bairdi fishery, which has been open for a least a few seasons recently after having otherwise been closed for many years). A frequently noted problem in developing markets and long-term relationships with the larger processing entities in the community, however, is that the locally based fleet consists of vessels that are small 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. These factors make it difficult for larger plants to accommodate what are, by necessity, relatively small and (in most cases) sporadic deliveries.

According to interviews conducted for this project in 2008, knowledgeable local residents estimated that less than a half-dozen local individuals made a relatively large proportion of their living from commercial fishing as either an owner/skipper or crew. Typically three to five specific individuals were listed as falling into this category, representing a slight increase in listings over those listed in interviews conducted in 2004, but only between one and three of these individuals reportedly relies exclusively on fishing as an income source or is otherwise characterized as a full-time fisherman. Other Unalaska residents engaged in commercial fishing

do so as a supplement to other primary income-producing employment. Commercial fishing for small boat owners in Unalaska 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 interview data gathered in 2008, one case was described where a current Unalaska resident lost a BSAI crew job due to fleet consolidation and, as an alternative source of fishing income, bought a local small vessel, increasing the active small boat fleet. According to an individual generally perceived to be the most active of local fishermen, there are more lucrative opportunities for Unalaska residents in the small boat fleet than as crew on crab vessels at present, and the local small boat fleet in 2008 is more vibrant than it has been in recent years.

Detailed qualitative and quantitative description information on Unalaska's small boat fleet current through 2004 is contained in an earlier produced profile (EDAW 2005). As this information is not central to the analysis of BSAI crab rationalization, it is not reproduced in this document.

Large Vessel Fleet

The large vessels from outside of the community that are associated with the individual shoreplants in Unalaska are discussed in overview in the processor section. Ownership patterns of the large catcher vessels have been changing in recent years, 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. Further detailed information on the relationship of larger pollock vessels to the community is provided in an earlier community profile (EDAW 2005) and is not reproduced here. For the large vessel crab fleet, currently (2008) no active vessels in the rationalized BSAI crab fisheries are owned by Unalaska residents. According to the BSAI crab rationalization database, three vessels owned by Unalaska residents have participated in the rationalized fisheries in either the 4 years immediately preceding rationalization or any of the years following rationalization. Of these, one appears in only one fishery and in only 1 year and is otherwise listed in the data as having Pacific Northwest ownership. The other two vessels, while listed as owned in Unalaska, are not, according to interviews with knowledgeable local residents, owned by individuals who are actually full-time residents of the community. Further, according to multiple interview sources, no full-time Unalaska residents are currently crewing in the rationalized BSAI crab fisheries.

2.1.3.2 Processing

Community Processor Quantitative Description

An earlier NPRB/NPFMC funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska*

(EDAW 2005), included a quantitative characterization of the Unalaska local commercial processing sector, including detailed information on an annual basis, from 1995 through 2002, of the number of active processors, species processed, pounds purchased, ex-vessel values, and wholesale values by species, processing value added, and relative dependency by species. As updating this information is effort intensive and not central to the current BSAI crab rationalization 3-year review-oriented community analysis, it has not been updated or included in this community profile. Rather, the more qualitatively oriented and BSAI crab rationalization focused discussion in the next section has been updated.

Community Processing Characterization

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 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, 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 other interests in the community have not been strained at times, 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 leadership capacities with the City of Unalaska and numerous community organizations. For example, at different times in recent years the mayor's position and one or more of the city council positions were filled by persons employed by processors. This level of social integration sharply differentiates Unalaska from other major fishing ports in the region, such as Akutan and King Cove.

There still is, however, a transient underpinning to the local processing industry, with very few, if any, processing workers at the larger plants being recruited from the local residential labor pool. In this sense, Unalaska is similar to Akutan or King Cove, and unlike Kodiak, which does draw processing workers from the community. That is not to say the nature of "transientness" hasn't changed markedly over the years in Unalaska, with worker stays in the community becoming longer with more stable processing levels. During the boom-and-bust years, the length of local residency of the workforce employed in seafood processing was inversely related to the vitality of the local industry in general. For example, in 1982, at the height of processing capacity for king crab, turnover tended to be high. Like today, there were no local residents other than some individuals in management positions, and the reasons cited for that fact at the time included working conditions, pay rate, and long work hours. 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. 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 the entire 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 as 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 hires 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, have at least become 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 given 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, involving very long hours for extended periods during processing peaks, are not compatible with an active involvement in community and family life outside of the plant.

In general, the pace of processing at the larger plants has changed with a rationalization approach to fishery management, with initial changes being evident following the changes the AFA brought to pollock processing. Earlier (2004) 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 a slowing down and 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 employment 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 derby fishery 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 personnel recruiting, 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 those times when there is a relatively strong economy in the Lower 48 (the contiguous states).

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. In general, however, the AFA is cited by local residents as being the centerpiece of a number of changes in fisheries management that have in turn changed the community, through changes in the processing sector and the support services sector.

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. (Further detailed information on impacts on processors specific to the rationalization of groundfish under AFA as well as Steller sea lion-related issues may be found in an earlier profile of the community [EDAW 2005]).

Recent (2008) interviews would suggest that BSAI crab rationalization has had an impact on plant processor workforce dynamics similar to that seen with AFA pollock rationalization, but with one main difference: the last few years of crab processing prior to the implementation of the rationalization took place at plants that were already rationalized with respect to pollock processing. This meant that plant schedules could be adjusted to more easily accommodate crab processing, especially during very short seasons or during low quota years. At least two of the major AFA plants reported that they discontinued use of dedicated crews for crab processing in post-AFA years, but prior to crab rationalization, because of increased flexibility of operations coupled with a sharp decline in crab volume, such that pollock seafood side products picked up some of the slack, with workers switching to processing other species as they become available. 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. With BSAI crab rationalization, there has not been the degree of increase in crab product diversity that there was with AFA pollock rationalization, but at least some product diversification has occurred. Changes in workforce dynamics associated with crab rationalization have reportedly been similar to those seen earlier during the rationalization of the pollock fishery.

Current Operations

The plants that currently operate in Unalaska can be grouped into three different categories: the three large multi-species plants (UniSea, Alyeska, and Westward), a mobile processor operator (Icicle), and two smaller specialty processors (Prime Alaska and Harbor Crown). The large multi-species plants are all AFA-qualified groundfish plants, and all process a wide range of species. Another plant that processed a significant amount of BSAI crab prior to rationalization (Royal Aleutian Seafoods) has been sold and its quota consolidated with another processor following the implementation of crab rationalization.

UniSea has a large multi-species plant in the community (which is the focus of UniSea operations for the state, having discontinued its former crab processing operation in St. Paul). At present (2008), when fully operational, UniSea has had upwards of 1,400 workers in Unalaska, including processing, direct support, and other business functions, an increase of about 200 over the previous 4 years. At present (2008), the number of direct processing workers (not including support or other business unit personnel) peaks at around 1,200 during pollock A season, and then again between 680 and 700 during pollock B season. During these periods, of course, many other products are run by the plant, but groundfish operations serve as the main driver for overall employment and activity levels. The increase of about 300 workers during A season in the years since crab rationalization, for example, is attributed primarily to diversification of pollock products, with an emphasis on producing more labor-intensive fillets. During the slow season in May and June, activities focus on maintenance and fabrication as well as running halibut and black cod. As B season trails off there is a step down in workers through king crab season, followed by a very slow period from late November through December. UniSea does provide idled processing workers with room and board during the slow winter time if they choose to remain in the community for the upcoming season. During the lowest point in December there are still approximately 300 to 360 workers on-site, including about 160 processors who are available to process intermittent deliveries but who also help with offseason maintenance.

Like other AFA plants, UniSea adjusts its operations around the schedule of crab deliveries, though these have changed since crab rationalization in 2005. Prior to rationalization, during the overlap of opilio with pollock roe and cod season, rather than bring in a pulse of workers just to do crab, labor-intensive value-added products for groundfish were suspended during this period to the extent it made sense to do so (making adjustments for the high-value, short-lived pollock roe season). Post-rationalization, this general pattern of balancing processor assignments and adjusting product mix accordingly during A season still holds, but on a reduced scale with the greater predictability of crab deliveries and the longer seasons. The change in crab volume produced by UniSea pre- and post-crab rationalization was also influenced by UniSea's acquisition of Royal Aleutian Seafoods, a major crab producer, post-rationalization. The main crab species run currently are opilio, Bristol Bay red king, brown king, and bairdi crab, with some other species run in lesser amounts. Prior to rationalization, for the fall Bristol Bay red king crab season, pollock operations were moved forward to "create a hole" for crab processing, with the unrationalized crab fisheries impacting the flow of other, even rationalized operations. 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. Processing of pollock itself has changed in recent years, with a de-emphasis on surimi to the point where it is almost a secondary product, due to changes in demand and the growth of production in other areas of the world. During a recent B season, for example, UniSea management reported that production was approximately 80 percent fillets and 20 percent surimi, but product mix also depends on current market demands. UniSea also reports that it has sharpened its processing focus in recent years. For example, as of 2008 UniSea had not run salmon, produced salt cod, or sold fish oil for quite a few years and had quit processing herring when the season shifted to conflict with other core operations. These changes all occurred prior to crab rationalization, but according to management, operations are now directed toward growing the value-added portion of the business, as facilitated by rationalization fishery management approaches. As pollock rationalization under AFA resulted in a more diversified product mix with increased recovery rates, so has crab rationalization according to UniSea management. For example, tail sections are now being recovered and sent to market as crab medallions. UniSea also starting delivering

fresh crab products in 2007 and reportedly doubled its output of fresh product in 2008. UniSea is also exploring restarting salmon operations during 2008.

Alyeska Seafoods takes a slightly different approach to balancing crab and pollock operations. In the several years immediately prior to crab rationalization, 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 (as did UniSea at that time). During the longer overlap with opilio season the plant could not afford to shut down pollock production, so Alyeska changed its pollock product mix to less labor-intensive product forms. Prior to rationalization, Alyeska had not run the more sporadic brown king crab for a number of years. Post-crab rationalization, balancing operations is reportedly more efficient than pre-rationalization, but there are spillover effects on other operations when large deliveries occur. At present (2008) for example, when the plant is "hit" with large amounts of trawl cod or opilio, pollock operations are switched to a less labor-intensive product mix (e.g., surimi versus fillets), with the specific change driven by market conditions, such as during part of 2008 when the surimi price was essentially the same as the fillet price. The regular crew of about 80 full-time personnel is augmented with seasonal workers, with peak worker numbers for the plant constrained by housing capacity (but less so than in the past due to the relatively recent acquisition of additional housing space through purchase of Carl's Commercial property, which included a bunkhouse). At present (2008) approximately 430 workers are typically on-site during the January through March period, when pot cod, opilio, pollock, and trawl cod largely fuel operations, but 2008 saw a highest-ever 450 workers on-site. A second peak is seen from July through October, when between 340 and 350 workers are on-site, driven largely by the pollock B season occurring on top of other operations. With crab rationalization there is no longer a dedicated crab processing crew at the plant, with workers shifted between product lines more fluidly. Slow periods now (2008) occur between April and early June and again from November through December when the 80 or so full-time, year-round employees at the plant rotate out on vacations, leaving approximately 50 to 60 employees present on the site at any one time. According to senior plant management, processor return rates have continued to improve in recent years, with B season return rates between 98 and 100 percent, and A season rates varying between 82 and 87 percent.

While Alyeska traditionally had been a diverse, multi-species plant running a wide variety of products from pollock, Pacific cod, black cod, halibut, herring, and salmon, among others, in recent years it has not processed black cod, halibut, or salmon. Like other large plants in Unalaska, product mixes have changed in recent years, as the emphasis on surimi has declined with changes in the market and as other opportunities have presented themselves as a result of the pollock co-op system. For Alyeska, these changes have included the addition of pollock fillet machines. In terms of product mixes facilitated by crab rationalization, plant management characterizes this as a process that is still evolving. Alyeska has flown out some fresh crab, but reports that there are still logistical challenges inherent in doing so from Unalaska. Alyeska has also added capacity to run 20-pound crab packs as well as the more standard 40-pound packs but reportedly has found less demand for the smaller packs, especially for opilio, than might have been anticipated, making the increased cost per pound for labor, packaging, and shipping less attractive. According to plant management, the greatest difference in crab processing post-rationalization versus pre-rationalization is the ability to improve upon product quality, whatever the product form.

One other change in Alyeska local operations in the post-crab rationalization era is not directly tied to processing (or rationalization) itself. Alyeska, through one of its parent companies, opened the Alyeska Trading Company store on-site in 2006, as described in the support services section below.

Westward Seafoods is a high-volume groundfish plant and a high-capacity crab plant that, according to senior plant staff, essentially runs every species of BSAI crab other than hair crab. The number of processing personnel on-site varies by season, with approximately 700 seafood and pollock processing workers and about 150 to 175 maintenance, office, galley, and housing workers present in 2008 during the January through March period during pollock, opilio, and cod activity. The number of processing workers during this period has increased in recent years due to an increased emphasis on labor-intensive pollock fillet production, with an average pollock shift growing from around 80 to 90 workers in earlier years to about 200 workers now (2008). From mid-April through June, the local workforce is down to approximately 250 people on-site, including about 80 processors (one shift), and activities during this time include the halibut and sablefish IFQ fisheries. From July through the end of October, approximately 700 seafood and pollock processing personnel and 150 support personnel are back on-site for the bait, herring, pollock, and brown and red king crab fisheries, among others. From November and especially December through the end of the year, local employment is at its ebb, with about 125 to 175 personnel on-site engaged in cleanup, maintenance, and some relatively low-volume processing, including brown crab and pot cod. About 125 people work steadily at the plant through the entire year.

Crab processing at Westward occurs intermittently through the year with season openings. 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. As for crab-specific processing employment, approximately 130 processors per shift are needed to run the three crab lines at their designed capacity and a core crew within the overall processing labor pool is dedicated to crab processing, with supplemental help assigned from other crews as needed. For the intermittent or lower volume crab fisheries, other seafood processing workers handle crab processing without the need for dedicated crab crew. As for processing changes directly attributable to crab rationalization, local senior management notes that there have been increased challenges associated with keeping processing crews on for longer seasons while still having to maintain high hourly through-put rates when deliveries do occur. Unlike some other plants, Westward reportedly does not set terms and conditions, including a set schedule, for crab vessels delivering to the plant, so there is a greater degree of uncertainty in timing of crab processing over a much longer season compared to pre-rationalization conditions. Rationalization has increased product forms as, according to senior plant management, they are currently (2008) running 11 different crab product forms.

Local Icicle Seafoods operations have yet a different focus from the other local processors. According to interview information in 2008, the pattern of local operations is little changed from that described during 2004 interviews. Icicle does not have a local shoreplant facility, but two of the company's mobile processors, *Bering Star* and *Arctic Star*, typically operate for at least part of the year in Unalaska. Typically, if one vessel is in the community it operates tied up to a dock at the northern end of Dutch Harbor, and if both vessels are in town at the same time, the second vessel processes in the Wide Bay portion of the Unalaska Bay. Icicle normally has a mobile processor in the community from January through April processing cod and opilio (before it

leaves to participate in the Togiak herring and Bristol Bay salmon fisheries) and again from July through mid-November to run cod and king crab. During any given year, one of the mobile processors will follow fisheries from southeast Alaska to the Pribilofs. Unalaska does not see an influx of Icicle employees in the same way 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 number of processing workers utilized on *Bering Star* and *Arctic Star* when they are in Unalaska varies by the vessel and the season. *Bering Star* typically operates with a crew of around 90 to 100 when it is in the community, while *Arctic Star* uses about 50 to 60 workers per shift for cod and around 90 to 100 workers for crab, plus an additional 6 to 8 maintenance personnel, with peaks reported in past years of around 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 but is supported out of the community. *Discovery Star*, which also operates in the region, focuses on herring and salmon.

Prime Alaska Seafoods is a small processing operation with facilities on the "Little South America" portion of Amaknak Island and an ice house facility on a finger dock in the inner harbor on the portion of UniSea holdings that were formerly part of the Royal Aleutian facility, but it does not have its own dock space. At present (2008), Prime Alaska does not have any year-round employees but rather operates seasonally. A typical yearly cycle involves salt cod and milt operations during A season from late January through early March, and then again from early June until early to mid-October (during each of which an average of six processing workers are typically employed). These operations are undertaken in conjunction with UniSea. Additionally, Prime Alaska processes fresh halibut from approximately the last week of May through August each year (during which time about 10 processing workers are employed 1 or 2 days per week, if enough people can be found). All products are shipped as fresh container loads as Prime Alaska does not have freezer facilities.

The pattern of Prime Alaska working with both processors and harvesters, focusing mostly on producing custom products in conjunction with a larger processor as well as on its own halibut fresh products, has been in place for a number of years. According to its owner, Prime Alaska attempted to add freezing capacity to the operation to take advantage of older halibut in addition to servicing the fresh market, but within weeks of installing this capacity was forced to relocate its facilities from the former Western Pioneer dock on Dutch Harbor to its current location because a sale of the property terminated its lease. Movement of the entire facility was problematic, which resulted in lost processing time (essentially two seasons), a loss of freezing capability (such that no frozen product has been shipped for several years), and, with the necessity of recontracting for shipping, increased shipping costs. The combined effects of these factors created adverse economic conditions from which the operation has not yet recovered. Relatively little of Prime Alaska's halibut is purchased from local IFQ holders, with more coming from the small boats operating out of Homer and Kodiak. While Prime Alaska did include crab in its operational mix in earlier years, it was no longer active in crab processing at the time of crab rationalization. This reportedly was 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*, but the difficulties of a small operation making money on a very short season were also noted by the owner at the time. In terms of competition with larger processing entities, maintaining good relations with other firms is seen as important, and while "there is always enough fish for someone of this size" there are cost challenges with doing business in Unalaska. Before crab rationalization, the owner anticipated that an increase in time

that crab would be available under rationalization and a change in dynamics of processor relations might have influenced Prime Alaska to reinitiate crab processing, but to date this has not happened. While according to the owner as of 2008 crab rationalization had neither helped nor hurt Prime Alaska as an operation, it was noted that rationalization can function to make it harder for a small operation to obtain limited amounts of crab from vessels. Under race-for-fish conditions, if a number of vessels were queued up to deliver to a larger processor, reportedly it was easier to get a waiting vessel to offload a portion of the catch to a small processor while otherwise experiencing down time while waiting to offload in the harbor. Under rationalized conditions, however, crab boats no longer queue up and wait, so there is little or no incentive for a vessel to leave its main processor while in town in order to deliver part of a load to a smaller processor, reportedly making it more difficult for a small processor to get the pounds that it needs to be economically efficient. An inherent structural challenge with crab rationalization was also noted to be the administrative expenses associated with very small quota allocations and the inability to economically ship crab in amounts that would equal less than a full shipping container. Other (non-crab rationalization) challenges reportedly faced by small processors attempting to diversify in Unalaska are an effective shortage of rockfish in amounts large enough to be economically worthwhile as a separate undertaking, due to the area management structure, difficulty competing in price for cod with very high-volume local operations, shipping costs for processing materials such as salt, and rising energy costs (both fuel and power).

Photo courtesy of Gregory Family

Harbor Crown Seafoods

Harbor Crown Seafoods, established in the summer of 2003, is the newest entrant into the Unalaska processing sector. This operation is located in the "sub dock" area complex on Amaknak Island, a central portion of which is the site of a former vessel repair facility that discontinued operations several years ago. Holdings leased from the Ounalashka Corporation are composed of several buildings including, among others, the sub dock shipway and building; a machine shop (that is currently unused); a bunkhouse; a galley; and a portion of the Dutch Harbor Mall, the former location of Osterman Fish, a small processor in the community that focused on "fresh and live" markets. Harbor Crown ran its first product in the Dutch Harbor Mall facility in 2003 before acquiring access to the sub dock area in 2004. Cod was first run in the sub dock complex in 2005, with crab first run in its current facilities in the fall of 2006. Harbor Crown currently (2008) runs gray cod, sablefish, halibut, brown and red king crab, blue crab (when available), and bairdi and opilio crab. All of the rationalized crab species that Harbor Crown runs as its own crab are either B or C share crab, as the processor did not qualify for a Processor Quota (PQ) allocation under the BSAI crab rationalization program. Additionally, however, Harbor Crown is currently (2008) leasing PQ allocation for Unalaska-based shares of Eastern Aleutian Islands (EAI) golden king crab that became available to a third party through a divestiture required when the owners of UniSea acquired quota initially allocated to Royal Aleutian Seafoods.

Common fish products for Harbor Crown include head and gut gray cod, and head and gut halibut (fillets are not produced, according to management, due to a lack of experienced cutters). A particular crab niche is individually cut crab legs (other than opilio) in 20-pound single leg packs. According to local management, Harbor Crown tends to pay harvesters more for king

crab than do other local processors, as it cannot compete without doing single leg packs with a grading system (that is, cluster packs would be a money loser for the operation). Harbor Crown typically arranges crab deliveries through co-ops but also takes deliveries from individual vessels *Time Bandit* and *Northwestern*.

In terms of an annual round for Harbor Crown, during the January through March period that encompasses A season, between 120 and 130 processors are on-site, along with a seven-person engineering crew, a seven-person dock crew, a couple of office staff including the housing manager, plus an operations manager. When operations slow after A season, approximately 21 processors remain on-site until mid-August and the combined dock and engineering crew drops from around 14 to around 5 individuals. Around August 17 brown crab king processing starts up, followed by cod around the first of September, at which time there will be two shifts of 35 processors running, for a total of 70 processors on-site. This level of activity typically continues through mid-December with red king crab processing. During the last 2 weeks of December there is a minimal crew on-site performing some maintenance work while the plant is otherwise shut down. Some galley staff members are also working during this time as some other employees do stay on the site in company facilities during this time even though they are not actively working. Although there are bunkhouse facilities on-site, during the 2008 A season Harbor Crown rented supplemental rooms at UniSea when its workforce exceeded its own housing capacity.

Harbor Crown processing workers are often recruited in Anchorage. According to local management, recruiting efforts have taken place in Seattle and elsewhere in the Pacific Northwest, but those have been less successful. Plant management also reports that a number of processors are hired from among those who have been let go from other plants in the community. The plant is characterized as somewhat different from the large plants in the community based on a relative lack of automation, meaning that work can be physically difficult, especially during the long shifts of peak seasons.

While Harbor Crown represents a new processing entrant into the rationalized crab fisheries, Unalaska did lose one major crab processor following the implementation of rationalization, with the closure of the local Royal Aleutian Seafoods plant following the acquisition of Royal Aleutian's crab processor quota shares by the owners of UniSea. As noted above, while most of this quota is run by UniSea itself, some divestiture of EAI golden king crab quota was required, which ultimately has been retained in Unalaska and processed at the Harbor Crown facility. Royal Aleutian was unique among processors in Unalaska as its operations focus almost exclusively on crab, although the plant also did run some halibut in the summer. It was the only major community-based crab processor in the region that was not an AFA-qualified company, and it ran no pollock or codfish. As a result, there were very sharply defined pulse seasons at the plant. According to 2004 interviews, in the years immediately prior to crab rationalization opilio crab was run in mid-January at the plant, providing about 5 to 8 days of work for about 300 people. In mid-August, there were approximately 2 weeks of brown king crab work for around 130 processors. In mid-October there were about 5 to 8 days of work on red king crab for around 200 processors. Reportedly these three species made up the vast majority of processing at the plant, although it did run "a smattering" of other crab species along with frozen and head and gut halibut and black cod, with fish processing during the summer providing employment for between 10 and 20 workers. In addition to the surge of workers brought in for the peak seasons, according to management interviews in 2004 there was a core group of about a half-dozen

workers at the plant "who have been here for years" with a total of about 15 to 20 people who are characterized as always being in the community, despite the fact that work is not always available at the plant. During times when work was not available at Royal Aleutian, these individuals reportedly picked up short-term work doing a variety of things in the community, including stevedoring and longshoring. With seasons being so short, management reported that it was a major challenge to find an effective workforce to bring to the community. Rather than attracting people as a primary job, they characterized it as being more like "paying for an Alaska adventure" to get people to come for the brief processing periods. With the shortening of seasons also came a drop in the rate of return of workers, from around 80 percent for the half-dozen years leading up to 2000 to perhaps 50 percent by 2004. These seasonal changes resulted in a change in recruiting approach, with the company coming to target "professional migrant workers" who over the course of a year may have processed salmon elsewhere in Alaska and worked in agriculture in California.

Royal Aleutian did benefit to some degree by crab caps on AFA processors, taking deliveries from over-cap vessels. Royal Aleutian was also somewhat different from the other local plants in the degree to which it bought from local small boat fishermen, an ability it had due at least in part to its different scale of operations. Given the structure of the business, Royal Aleutian also reportedly bought proportionally more goods and services locally than the larger plants, although at the time UniSea was also noted in the community as purchasing more locally than the others. Given the lack of dock space compared to other processors, the Royal Aleutian-related fleet also used proportionally more Unalaska dock space during the off seasons, and the processor underwrote this vessel expense.

While the closure of the Royal Aleutian plant eliminated a number of jobs in the community, the large majority of these jobs were filled by very short-term transient workers. In the meantime, employment levels increased at both UniSea and Harbor Crown Seafoods, the two processors that currently run processor quota that was initially allocated to Royal Aleutian, so there is no apparent net processing job loss in the community. The post-rationalization employment history of specific former core workers at the Royal Aleutian plant is unknown, but interviews would suggest that the growth of Harbor Crown has provided at least some parallel opportunities post-rationalization.

At least a few small-scale firms in the community are not processors but handle and ship seafood from Unalaska as well. The most visible of these is Aleutian Fresh Seafoods. With a small store in the airport complex, Aleutian Fresh buys product from the local processors and ships primarily direct to consumers, although some shipments are made to restaurants as well. The business employs two full-time people and opened its airport store in 2005, although the company had been selling primarily scallops and crab for a number of years prior to that out of a second office (co-located with Mike's Fire Equipment and Western Alaska Appliances) in the community. Sales are typically generated online and by word of mouth, and peak around the Thanksgiving and Christmas holidays. Locally generated orders can be picked up at the airport as well as shipped direct. In addition to seafood products, Aleutian Fresh also sells a number of miscellaneous seafood-related items.

2.1.3.3 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 sizable 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 (IAI 1991), Unalaska serves as an important support port for several different sectors or subsectors of the pollock fishery, including harvesters (including a wide range of vessel classes), inshore processors (including shoreside and floating processors), and offshore processors (including processor/motherships and catcher/processors). This same pattern holds true for the crab fishery and the other major fisheries of the area.

The Ounalashka Corporation, the local Unalaska village Alaska Native Claims Settlement Act (ANCSA) corporation, is in a unique position with respect to functioning as a support service entity to the fishing industry. By far the largest land owner in and around the community, the corporation leases land to some fishery support businesses, such as American President Lines and Horizon Lines, which represent the corporation's largest leases, as well to at least one of the seafood processors themselves, Harbor Crown Seafoods. Other seafood processing plants with larger geographic footprints in the community, Aleyska, UniSea, and Westward, all own their own land, as these parcels were in private hands prior to the passage of ANCSA in 1971. In a departure from strategies pursued in the past, the Ounalashka Corporation currently focuses on leasing land rather than direct participation in specific business ventures. This reliance on leasing (and longer-term leasing specifically) has reportedly served to insulate the corporation somewhat from the drastic swings in fortune that can accompany changes in fishing conditions year to year that, in turn, can and do impact direct fishery support businesses. In terms of impacts of BSAI crab rationalization in particular, interviews with corporation leadership suggest that the Ounalashka Corporation has seen few if any direct changes to their business. For example, the corporation leases land for crab pot storage rather than operating a crab pot storage business, such that lease returns have been unchanged despite a drop in pot storage itself. In general, business has been characterized as steadier under rationalization conditions, and there is currently (2008) a waiting list for corporation-owned housing.

Other 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 pollock and crab-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. Large-volume supplies, such as packaging materials and food, are commonly purchased "down south" and shipped direct. Individual processing plant workers do patronize local businesses to some extent, although this is limited by the fact that they are supplied furnished housing and meals by the processors. Nonetheless, this trade is important to some of the retail stores in the community. As noted below, some of the stores in the community carry

specialty ethnic foods for this trade and at least one of the larger stores draws part-time workers from the processing labor pool during the off-seasons. The smaller processing operations in Unalaska have proportionally more local purchases of goods and services in the community than do the large operations.

According to interviews conducted in 2004, the single major non-pollock crab processor in the community, Royal Aleutian, 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 had seen "about a half dozen" of their vendors leave the community in previous years. This is the only processor that has ceased operations during the post-BSAI crab rationalization era in Unalaska. In the meantime, Harbor Crown Seafoods has ramped up operations in the community, including crab processing. It is not known, however, how the level of local purchases of support services has varied between these two operations.

Vessel Support

There are numerous businesses within a variety of subsectors in Unalaska that are oriented toward supporting catcher vessels or, to a lesser degree, catcher processor vessels for a significant amount of their business. These include such diverse enterprises as vessel grocery supply, marine supplies/hardware, hydraulics, marine electric, marine electronics, mechanical services, welding and ship repair, and fuel provision, among others.

One general trend among the diverse vessel support businesses is a change in the nature of demand for services that has accompanied the way fisheries have been rationalized in recent years along with changing harvest levels. With the decline in opilio processing levels several years ago, which occurred simultaneously with a decrease in the race for fish with rationalization in the centrally important pollock fishery, there was a drop-off in peak demand for vessel-related support services. The amount of this drop-off at any particular business depended on a number of different factors, including the relative reliance on crab and trawl fleet support. According to one service supply business manager, in general co-op systems should help out support businesses in the long run, because even if overall there are fewer vessels to service, it is the less efficient vessels that drop out, leaving more predictability and more secure players. The flip side of this perspective, put forward by other some other support service business owners, is that it is precisely the inefficient vessels that need the most service in a place like Unalaska. In practice, a good portion of the support business in Unalaska has been built on inefficiencies, as according to one 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). The implementation of crab rationalization has been seen as a continuation of the trend of change for support businesses that has been experienced for several years, and particularly since the implementation of pollock co-ops.

Compared to the pre-AFA era, there have been employment cutbacks in nearly all of the businesses contacted in this subsector that have remained in the community from this earlier era, 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 specific 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. One social change that has accompanied these business changes in the support sector is that the pace of business has been more sustainable, and with the predictability of a more consistent business year. This has permitted something resembling a "normal life" for business owners, managers, and workers, which, in turn, has apparently fostered more people bringing their families to the community.

Another common problem with these businesses is inventory, and this has changed somewhat under both AFA and, later, crab co-op conditions (again, depending on how relatively dependent a business is on trawl-specific or crab-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 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.

According to interviews conducted in 2004, firms engaged in supporting the crab fishery, depending on the composition of the overall business base of these firms, had already been hit more or less hard by the decline in the crab quota prior to the implementation of the rationalization program. According to one business manager, with the loss of income to crab vessels prior to rationalization, he saw his crab vessel support business drop off 50 percent as a number of vessel owners were reportedly not spending money on preventative maintenance and those who were performing work were slower to pay their bills. Subsequently, changes in season lengths, and especially the fleet consolidation that accompanied crab rationalization, affected crab-dependent businesses in a number of different ways, depending 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 in the years leading up to rationalization had 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 under AFA co-op conditions 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" rather than consistently using a single vendor. While similar changes

have theoretically occurred with crab rationalization, in practice the decline in business due to shortened crab seasons prior to rationalization, and the previously occurring impacts related to pollock rationalization, have tended to make the impacts of crab rationalization itself less dramatic, according to a number of support business owners.

Another common observation of the support sector within the community is that while the relatively longer pollock and crab 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 is 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."

No systematic information exists on the vessel support service sector in the community. The following business characterizations were derived from limited field interviews conducted over a brief period of time. It was not possible to contact all support service businesses in the community, and these sketches are intended to convey the types and nature of these businesses in the community, and their links to the fisheries, not provide an exhaustive inventory of Unalaska support service businesses. For this analysis a premium was placed on recontacting those businesses included in pre-rationalization community profile characterization to facilitate a description of changes over the course of rationalization. While this occurred in most cases, it was not always possible due to schedule constraints. In some other instances, current management staff had a limited perspective on changes in the business over time due to management turnover.

General Stores and Grocery Supply

At present (2008) there are a total of five enterprises that have been supplying groceries to vessels as a substantial portion of their business, including two specialty operations (Peterkin Distribution and Highliner Food Services), a more general ship supply store that also provides groceries (Alaska Ship Supply), and two larger general stores/supermarkets (Eagle Quality Centers and Alaska Commercial Company [AC]). In recent years one general store has left the market (Carl's Commercial) and a small grocery store (Alyeska Trading Company) has subsequently opened near the site, but the latter is not involved in supplying vessels as are the larger stores.

Highliner Food Services, which has been in the community since the 1990s, is a wholesale grocer whose primary business (approximately 90 percent) is supplying commercial fishery customers. The 10 percent of nonfishery sales includes less than 1 percent retail, with the balance going to local restaurants. The fishery-related 90 percent is divided between local processors, catcher vessels, and American Seafoods catcher processors (of which about 30 percent goes shoreside and 70 percent goes to catcher vessels or catcher processors). Highliner Food Services also derives a significant portion of their business from a freight forwarding service. Orders made through their Seattle office allow the Dutch Harbor/Unalaska operation to facilitate the handling of larger orders ($80,000+) than would be financially and logistically practicable given the size of the local facility. The service also allows the local facility to avoid the additional expense or loss of revenue through extended periods of large over- or understock. The value of typical locally placed orders filled on-site ranges from $10,000 to $15,000. For this reason, Highliner Food Services tends to market their services to larger vessels in the different fleets. According to 2008 interviews, business has grown in recent years and Highliner has increased its

local market share. According to 2004 interviews, Highliner had one local manager and two employees; as of 2008 the business had five full-time local employees. The company reportedly has not been affected by crab rationalization as the business remains focused on larger vessels.

Peterkin Distribution has also been in the community since the 1990s and is a wholesale grocer whose sales are largely directed toward the fishing industry. Approximately 90 percent of sales were characterized as commercial fishing related in 2004 interviews, a figure that was confirmed in 2008 but was noted as fluctuating by season during the year. Overall the business is described as primarily serving larger vessels, supplemented with a modest amount of local shore business, including some restaurant supply. Peterkin Distribution, unlike Highliner Services, fills all orders locally. According to 2004 interviews, Peterkin Distribution had 1 manager and 4 employees, but as of 2008 had between 6 and 10 full-time employees during the year. Local management characterized Peterkin Distribution as experiencing no impacts as a result of crab rationalization, as crab vessels, due to their smaller scale, are typically not a part of the Peterkin customer base.

The Alaska Ship Supply Dutch Harbor grocery operation, part of a larger store with multiple offerings including clothing, marine hardware, fishing gear, and crew supplies, among others, is similar in some operational characteristics to Highliner or Peterkin such as in typical commercial vessel orders, although it is more "user friendly" to the public by means of facilitating walk-in trade. Unlike the true warehouse orientation of Highliner or Peterkin, Alaska Ship Supply resembles a bulk item wholesale/retail store, and it has been in the community since the early 1980s. According to management interviews in 2004, the vast majority (95 percent) of the Alaska Ship Supply grocery operation's business was commercial vessel related, and according to 2008 interviews, this general pattern is unchanged. In 2004 interviews, business was described as generally good and more consistent over the preceding few years than in the more distant past, due in part to the longer fishing seasons (that have accompanied rationalization). Employment levels were characterized as remaining steady throughout the year, but with existing staff working greater hours during peak times and fewer hours during the slow times. Alaska Ship Supply also has a smaller Captains Bay location in the community. Opening in 2003/2004, this store has a non-grocery inventory similar to the Alaska Ship Supply Dutch Harbor store, along with a mini-mart type of food and beverage service. According to senior management, as of 2008 there has been a steady, significant increase in business for Alaska Ship Supply overall since 2005, the first year of crab rationalization, with the increase in business attributable to a range of factors, but with business specifically attributable to the crab fishery also increasing during this same time, contrary to initial management expectations. As of 2008, a total of approximately 30 individuals were employed at both store locations in the community, with little turnover reported.

The two large grocery/general stores within Unalaska, Eagle Quality Centers and AC, share a number of characteristics, selling a variety of products as well as groceries, including clothing, electronics, and durable goods. There are a number of differences in emphasis between the two as well, as noted by store managers in 2004, where AC stocks a variety of furniture and firearms, while Eagle sells sportfishing gear, over-the-counter medicines, and jewelry. Eagle also contains a deli-bakery, coffee counter, and a large video/DVD selection for rent and for sale. AC tends to have a greater variety of nongrocery products given its history as a general store; thus, overall, nongrocery items account for a larger proportion of their business than is the case at Eagle. Eagle competes for business primarily based on variety and price of groceries and correspondingly has a larger market share for groceries. Nongrocery products in Eagle are primarily stocked for convenience, to allow customers to the extent feasible to shop "under one roof."

In terms of direct fishery-related business, according to earlier (2004) interviews the AC and Eagle stores both have local processing workers as a client segment. Common services include cashing paychecks and money order services. Beyond that there are a few differences in types of business attributable to the processing workers. Eagle management reports that processors tend to buy electronics and other consumer goods/personal items, but not much in the way of groceries. At the AC store, processing worker sales often include electronic goods, CDs, sheets, towels, and pillows, but also enough in the way of grocery sales to justify the store creating an "ethnic" food aisle, catering to specific regions or countries of origin of processing workers.

Both large grocery/general stores also supply groceries to fishing vessels. In 2004, AC management estimated sales to vessels as accounting for perhaps 50 to 60 percent of its grocery sales and it was not unusual for one of their three regular longline vessel customers to call ahead and order five to eight pallets worth of groceries costing between $10,000 and $14,000 per order. This varies, however, by relative amount of port calls and the length of the fishing season with the type and nature of groceries purchased also depending to a degree on the particular cook on the boat. AC also serves small vessels, but these are more "just filling a lot of carts" as opposed to bulk orders and, while important, are not a large percentage of the business. At the time of field interviews in 2008, AC had recently experienced a turnover in local management, such that updated information was not available. It is known, however, that employment levels were virtually the same in 2008 as they were in 2004 (20 to 21 full-time staff). All are full-time during the peak seasons (but with no overtime), and vacations are taken during off-seasons.

According to local management, at present (2008), Eagle management estimates that about 33 percent of its grocery business is attributable to commercial fishery business, with about 20 percent of its overall business being directly attributable to vessels themselves. The overall dependency figure is unchanged from that offered in 2004 interviews. Eagle has, however, seen a change in its staff mix in recent years. According to interviews with management in 2004, relatively few staff were full-time (the manager and senior staff), but in 2008, according to senior management, the staff of 49 employees is split about 70 percent full-time and 30 percent part-time.

According to interviews for previous projects, Eagle facilitates vessel orders by offers of free delivery and boxing if a list is sent by the vessel and offers "streamlined retail" as opposed to wholesale service. Interviews for previous projects also suggested that more processing workers are working part-time in the store during off-seasons instead of leaving the island than in the past, and in general it is considered easier to retain staff given the increased stability of the community as the fishing seasons have come to have fewer sharp peaks and valleys of activity. Crab rationalization was noted in 2008 interviews as continuing the trend of less pronounced peaks and valleys of activity for the store. According to store management, crab rationalization has made Eagle's business cycle more predictable and has not resulted in noticeable adverse impacts to the business.

Another general store in Unalaska, Carl's Commercial, closed in recent years (during the post-crab rationalization era). Carl's was a long-standing institution in the community, having operated under the same ownership since 1961, and one that traced it roots back to the Russian-American days, through the original AC outlet in Unalaska, and the Northern Commercial Company. The store offered groceries, hardware, furniture, appliances, and a range of household goods, and was part of a larger set of businesses that included a 32-room hotel and bar. Located

near the Alyeska Seafoods plant, this was for a number of years the only store on the Unalaska Island side of the community (following the close of the Aleutian Mercantile). According to interviews with store management for earlier profile efforts, approximately 30 percent of the hotel business, 25 to 30 percent of the store business, and around 60 percent of the bar business were attributed to commercial fishing-related activity. Recently, the owner of Carl's (who prior to opening the store in Unalaska had stores in Sanak and King Cove), sold his holdings in Unalaska and moved to Sand Point, opening a Carl's in that community in January 2007. The Unalaska Carl's store, bar, and hotel were shut down upon the sale (as opposed to reopening under different ownership), effectively further consolidating the local bar and hotel businesses among other existing entities.

The Alyeska Trading Company store opened for business on the Aleyska Seafoods processing site in downtown Unalaska in December 2006. It was initially designed as a small convenience store primarily for Alyeska employees following the closure of nearby Carl's Commercial, as no other stores existed on the Unalaska side of the community. In response to more general community demand, however, the store was expanded during the winter of 2007–2008, increasing both its size and range of inventory. The store is operated by the store division of Ward's Cove, one of the parent companies of Aleyska Seafoods, and is now (2008) essentially a small grocery and general store.

Photo courtesy of Gregory Family

Alyeska Trading Company Store at lower left

Two relatively small Asian specialty stores have also opened in the community in recent years. Metro Manila Asian Foods is located in the sub dock area and Dutch Harbor Asia Oriental Grocery is located across the street in the Dutch Harbor Mall.

Photo courtesy of Gregory Family

Metro Manila Asian Foods

Marine Supply and Hardware

Another type of vessel support enterprise is composed of marine supply and hardware stores. Examples of this type of business in Unalaska are LFS, Net Systems, Alaska Ship Supply, and Pacific Hardware. LFS supplies marine hardware and clothing, including a full range of foul-weather gear. According to store management, approximately 80 percent of sales are related to buoys, lines, and other marine hardware, with clothing comprising the remainder, with this split between the two holding consistent over time. LFS services a number of different fleets that spend at least some time in Unalaska, except that the larger factory trawlers tend to be self-contained, carrying their own equipment and supplies for any given season. In interviews in 2004, LFS management noted that sales levels and patterns have

Photo courtesy of Gregory Family

Dutch Harbor Asia Oriental Grocery

been consistent over the preceding few years (with January through April and September through October busy), and this had its benefits. While more concentrated sales periods previously experienced allowed the business to hold inventory for a shorter period, this has to be measured against a steadier, more consistent volume of business. According to local management, BSAI crab rationalization did change the business cycle somewhat as October is no longer a peak month. Further, according to 2008 interviews, prior to rationalization the crab fleet accounted for about 30 percent of the local business volume, but with rationalization, crab-related sales declined about 65 percent, as LFS sales tend to be driven by the number of vessels participating in the fishery rather than overall fishery volumes. As of 2008, LFS had three full-time and one part-time employee in Unalaska year-round. Staffing levels have remained stable since before crab rationalization was implemented, but overtime earnings of workers have reportedly declined.

Net Systems is a marine hardware supplier with a fully equipped wire shop, capable of performing a range of fabrication and repair work. They also sell some personal supplies/clothing for fishermen. Net Systems has been in Unalaska since the late 1980s. According to interviews conducted in 2004, about 80 percent of the business was connected to trawlers, with crabbers making up most of the rest. Local management reports that they used to be busier for wire, but this still continues to be their niche. Business is heaviest just before pollock A and B seasons, though some boats gear up in Seattle as opposed to Unalaska. Local employment has increased from four persons in 2004 to five full-time staff as of 2008, all of whom live year-round in Unalaska. According to 2008 interviews, with rationalization, crab-related sales are now down to about 10 percent of the business, although there has not been much of a change in inventory. Ocean Safety Systems, which had earlier been spun off from the local Net Systems business as its own enterprise, was reportedly hit especially hard by crab rationalization and as of April 2007 was taken back in by the local Net Systems operation.

Alaska Ship Supply, a grocery supplier as noted above, also has large hardware and marine supply departments within its Dutch Harbor store. While the bulk of this part of the business is marine oriented, they also stock auto parts, and provide some auto maintenance and repair services as well. According to senior management, auto-related services have tended to draw general customers from the community to the store who might otherwise have patronized other businesses closer to the main residential areas of the community, resulting in increased sales in a number of departments.

Pacific Hardware opened in Unalaska in March 2008 and is a small business that supplies gear for commercial fishing vessels. As the business established post-crab rationalization, it did not experience any rationalization-related impacts.

Photo courtesy of Gregory Family

Pacific Hardware

Hydraulics

There are also currently (2008) two hydraulics businesses in Unalaska: Rapp Hydema and Hydra-Pro. Rapp Hydema provides repair service and installs hydraulic deck machinery, winches, pump systems, and hydraulic motor drives. Products are fitted for a variety of vessels (fishing, research, tug, and barge), but in Unalaska the work is fishing orientated (mainly trawlers, with some tugs). Though the shop is open year-round in Unalaska, larger jobs will go to their repair shop in

Seattle unless they need to be made on an emergency basis. As part of a much larger company, Rapp Hydema manufactures and produces their own equipment. The company has been in Unalaska since the late 1980s, and while the level of activity is characterized as "pretty busy all the time now," according to interviews conducted in 2004, there are distinct peaks just before and during the major seasons. As of 2008, local staff included a manager, a secretary, a machinist, a mechanic, and a helper, with additional individuals brought in from Seattle during peak seasons as required.

Hydra-Pro is a hydraulic sales and repair business (and manufacturer's agent) that attributes 98 percent of their business to fishing industry, with both boats and processors as clients. Hydra-Pro has been in Unalaska since 1998. The business handles particular makes of trawl electronics systems, to provide a synergistic service to many of the boats utilizing Hydra-Pro for winch and hydraulic systems services. Hydra-Pro typically has a total of six staff locally, but as of interviews in 2008, not all positions were currently filled. Rationalization in general has smoothed out peaks and valleys at the business, which has resulted in lower inventory needs, improved cash flow, and ultimately a reduced cost of doing business. According to local management, crab-related business has declined by more than half since the implementation of crab rationalization, but overall Hydra-Pro attempts to keep their customer base broad over all types of vessels and the overall business has grown every year since it opened. Although bottom line revenues for the operation may not have declined, crab was viewed as a nice "bump" in business at the end of the year and employees enjoyed the overtime earnings.

Until recently, Unalaska was served by a third hydraulics entity, Hanson Hydraulics, that closed shop in the post-crab rationalization era. It was differentiated from the other hydraulics providers, however, in that it was also one of three machine shops in Unalaska (along with Magone Marine and Alpha Welding; a fourth shop, formerly utilized by Walashek Marine, was not then and is not now active). Formerly a part of Marco, Hanson Hydraulics became independent following the withdrawal of Marco from the community. At the time of earlier interviews (2004), the owner of Hanson Hydraulics reported that between 50 and 60 percent of the business was associated specifically with the crab fleet. While the closure of Hanson Hydraulics was cited by a number of other interviewees in Unalaska as having resulted at least in part from crab rationalization, a follow-up interview with the former owner (who no longer lives in Unalaska) suggested a more complex situation. While crab rationalization did lower crab revenues to the business, a coincident growth of local Pacific cod-related activity, which requires a considerable amount of hydraulics support, made up for those declines, such that there was no net decrease in business (but there was no net increase either). Rather, what prompted the closure of the business, according to the former owner, was a combination of owner age, a desire to have a better work schedule, and a perception that there would be future rationalization in the cod fishery that would result in a net decrease in business.

Electrical and Electronics

Electrical and electronics support firms are also relatively well represented in Unalaska, in the form of Harris Electric, Sea Technology Company (also known as STC), and Lunde North. Harris Electric specializes in the repair of marine electrical systems and electronics. According to 2004 interviews, with 95 to 98 percent of the business attributable to commercial fishing, management reports that they can basically "repair anything on a commercial fishing vessel." In business locally since 1986, current work is spread across all fleets (depending on season). In

general, the last week of December and then the months of January and February are busy, before business slows down in March. July through October is another busy period, before things slow down again at the end of the year. According to 2008 interviews, Harris in recent years had four full-time employees on-site at any given time, though only the manager and administrative person live in the community, with the remaining staff rotating in and out 6 weeks at a time. Local management reports, however, that crab rationalization has resulted in less overtime for employees, which is a detriment for people rotating into the community who want to maximize their earnings while on the road. Overall, management staff reports that crab rationalization may have decreased business by about 10 percent, but that the remaining vessels are the more successful vessels (and are better customers).

STC has a business similar in structure to Harris Electric, specializing in the repair of marine electrical systems and electronics, with about 95 percent of the business commercial fishery related. According to 2004 interviews, at any give time there would be one to five employees on-site, but all continually rotated up to the community from their base in Seattle. As of 2008, STC had two full-time, year-round employees in Unalaska, supplemented with employees from Seattle to provide an average of five employees on-site during peak periods, which are in January and June in advance of pollock A and B seasons. According to local management, with the consolidation of the crab fleet that accompanied rationalization, STC went from servicing about 10 crab boats down to 1, but for the overall business, this was "a drop in the bucket" and revenues have been made up with other business. An important growth area for STC has been the tug and transportation industry.

Lunde North specializes in the installation and repair of marine electronics, with approximately 90 percent of the business attributable to commercial fishing, with the remainder coming from computer installation and repair. Lunde North has been in Unalaska since the mid-1980s. Work is spread among the different fishing fleets, although work on pollock vessels is more common given the size of vessel and nature of the electronics on board. As of interviews in 2004, crab boat work had been declining in preceding years, as pollock work has picked up. According to interviews in 2008, local management reported that crab was perhaps one-third of the business prior to rationalization, but only about 10 percent post-rationalization, a drop from which the business had not yet fully recovered, although business related to factory long liners has increased in recent years. According to 2004 interviews, Lunde typically has two technicians working in the community, though a third will be added during busy periods.

Mechanical

NC Machinery is a supplier of mechanical work in Unalaska, specializing in service and sales CAT engines and equipment. An estimated 75 to 80 percent of their local business is characterized as directly related to commercial fishing, with the balance comprising public clients, including utilities. Of the fishing-related component of the business, approximately 30 percent of the demand is shore based and 70 percent is fleet based. This business has a long history in the community prior to becoming NC Machinery in 1985. Within the fisheries component of the business, they service all segments of the fleet. As of 2004, NC had 13 employees in Unalaska, but only 2 were local residents and the remaining 11 rotated in from elsewhere in Alaska and the Lower-48 (and are generally not working when not in the rotation. As of 2008, 3 employees are local residents (a receptionist and 2 parts personnel), 13 technicians rotate into the community, and 2 branch managers also rotate in to fill local positions. While a

move away from an Olympic fishery system in pollock resulted in a more consistent level of business, there are still busy and slow periods. According to 2004 interviews, the busiest periods occurred from mid-November through end of January, and then again from June into the fall, but the slow periods were characterized as "filling in more now." According to 2008 interviews, crab rationalization did result in a drop in crab-related business, but the company successfully looked elsewhere for revenues. According to local management, as of 2008, service levels and revenues have been relatively flat over the past 5 years, as the company has not experienced losses, but has not had the desired growth either. Crab rationalization has reportedly also resulted in increased employee turnover, as with a decline in overtime opportunities, it is less attractive for outside employees to rotate into Unalaska than was previously the case. NC Machinery is a business that relies on skilled labor, which is not locally available. This has been challenge for the firm, which has had to create other assignments to allow employees to earn overtime, such as assigning them to SBX (defense x-band radar) related work in Adak and Hawaii, so that overall staying with the firm, including rotations into Unalaska, remains attractive.

Welding and Ship Repair

Welding and ship repair enterprises represent another type of vessel support service in Unalaska. These include Waterfront Welding, Harbor Welding, Alpha Welding, Mac Enterprises, and Magone Marine. Waterfront Welding does marine/boat welding but is also a supplier of welding products and marine refrigeration supplies and service, and it is a steel reseller that does occasional fabrication. The business has been in Unalaska since the late 1970s. As of 2004, the business had seven employees during peak periods and two during the off-peak times, and was characterized as servicing trawl, longline, and crab vessels (but saw little business from factory trawlers that tend to be more self-contained). Following pollock rationalization, Waterfront personnel observed that the longer pollock seasons meant that vessels stayed in the community longer, providing work for support businesses, rather than heading to Seattle between seasons. As of 2008, the business had three full-time, year-round employees but only typically added one helper during busy times. Waterfront supplied crab vessels with welding gases and steel fittings, and this segment of the business declined with rationalization. While some vessels have stayed in the community longer, boosting individual vessel business, this reportedly has not offset the volume lost with fleet consolidation. The business has reportedly evened out, however, with revenues related to construction projects. Overall, sales are characterized as up in recent years, although rising costs and expenses have meant that revenues have stayed essentially flat in real terms.

Harbor Welding specializes in ship repair welding and diving. While in business under its current name for only a few years, the owner of the firm has been working in the community since the late 1980s. As of 2004, the firm employed three people year-round, with a total of six employees during peak times, with August through November, and January through February being the busiest times. As of 2008, six employees worked for the firm year-round. Overall, approximately 80 percent of the business is estimated to be commercial fleet related, with some processor-related diving as well. Typically, commercial fishing vessels working out of Unalaska are hauled out in Seattle every 2 to 3 years, and Harbor Welding business is related to the maintenance in between these haul-outs. Typical jobs would involve the replacement of leaking pipes or diving to cut lines off wheels. While work can involve all types of boats, more business is typically associated with longline vessels than any other type. With high fuel prices, bigger

jobs are being done locally because of the expense of taking vessels to Seattle. According to the owner, crab rationalization has had no impact on the business as Harbor Welding is not big enough to have been affected and has to turn work down.

Alpha Welding specializes in sheet metal work, computerized cutting, and fabrication and works on all types of vessels regardless of season. According to interviews in 2004, an estimated 80 percent of the business was related to commercial fishing of that portion, and about 50 percent came from groundfish vessels. The 20 percent nonfishing business tended to be related to public entities and was reportedly increasing year to year, with emergency jobs being common. Alpha Welding has been under current management since 2001 but has been an entity in the community since 1990. As of 2004, a workforce of 6 employees was typical, but this fluctuated between 5 and 10 during the year. Work remained busy most of the year, with particular peaks 2 weeks before major seasons and during the month of February. A steadier work flow is preferable particularly given that high costs of steel and fuel have played much more of a role in the business as of late. Previously, job costs were based predominantly on labor charges, but as of 2004 materials formed a large part of any job bid/cost estimate. Another factor is the changing quality of the vessels within all fleets—with the more professional/reliable management of newer, higher quality boats and subsequently lower numbers of "junkers," there has been a decrease in the number of repair jobs needed. During the time of field interviews in 2008, the owner of Alpha Welding was unavailable to provide an update of operations. According to an informed business associate, however, the owner of Alpha Welding had anticipated potential impacts from the consolidation of the crab fleet that could logically be foreseen to accompany rationalization, such that the company was able to pre-adapt to rationalization conditions and avoid any substantial impacts.

Mac Enterprises is described by its owner as a three-part business, including diving and underwater welding, above water welding, and boat watch services, with three employees in addition to the owner. According to interviews in 2004, boat watch services provided about 50 percent of the income for the business, and above water welding was seen as limiting to the rest of the business because of taking away time from underwater welding tasks. Vessel watch work had grown with the changes in seasons, as trawl vessels tended to stay in the community between pollock A and B seasons, except for those years when they headed to a shipyard. At that time (2004), Mac Enterprises was responsible for watching between 50 to 70 vessels in the November to December slow period, and given the limited dock space in the community, this required active management of those vessels. Mac Enterprises was then and remains now (2008) the only business in Unalaska providing watch service for more than a handful of vessels or as a full-time undertaking.

According to a 2008 interview with the owner, when it was apparent that crab rationalization could have an adverse impact on Mac Enterprises due to fleet consolidation, the business was proactive in making changes to avoid having those vessel losses hurt the business overall, including instituting a raise in rates for services across the board, which had not been done in several years. Further, the business diversified by purchasing a 43-foot fiberglass twin diesel vessel that is now used for a variety of charters, including National Oceanic and Atmospheric Administration (NOAA) research, environmental contracts, Umnak and Akutan reclamation work, adventure travel, freight and fuel delivery to Nikolski, and occasionally surface service to Akutan when air service is not available. At present (2008), the boat watch service component of the business still accounts for about half of overall business revenues, with a base of about 50

steady customers. Despite consolidation in the various fleets, in recent years remaining vessels are perceived to be spending more time overall in the community (including more trawl vessels staying in the community between B and A seasons). The diving and welding component of the business is described as more steady since crab rationalization. Overall, Mac Enterprises employs three full-time individuals and two to three additional divers/welders/watchmen as seasonal needs dictate. Overall, any negative impacts of crab rationalization on the business are seen as having been offset by other factors.

Magone Marine is a business whose owner formerly described their operation in Unalaska as a "wet dry dock," including welding, machining, fabrication, repair, and related services. When the company started many years ago, crab and shrimp vessels were the main focus of the business, but as of interviews conducted in 2004 (prior to rationalization) crab-related business was "almost inconsequential" given how short the seasons had become. As a result of this and other changes in the fisheries, Magone has diversified into wreck removal, vessel salvage, shipping equipment, and related undertakings as marine repair was a "mere shadow of what it used to be." More recently, Magone Marine acquired a dry dock, which was put into operation in the community in October 2007. Put into operation primarily to service fishing vessels, the largest vessel accommodated by the 200-foot dry dock as of 2008 was 156 feet long. The next closest dry dock to Unalaska is located in Seward, and it is assumed that with rationalization and increased costs of fuel that more vessels will stay longer in Unalaska and require more vessel work while they are in the community. Employment at the business has increased in recent years, from an estimated 25 people to a constant crew of between 40 and 42 year-round in 2008, with seasonal employees bringing the total up to 50 employees during the peak summer salvage period. While the business used to be locally focused, it now includes salvage work "within a thousand-mile radius."

Fuel Sales

Fuel sales are another type of locally provided support for the catcher vessel fleet. Marine fuel services in Unalaska are provided by, among others, Delta Western, North Pacific Fuel, and Offshore Systems, Inc. (OSI). Delta Western supplies fuel to vessels and local land-based clients and according to interview information from 2004 an estimated 85 to 90 percent of total sales volume was attributed to commercial fishing vessels with the remainder being mostly heating fuel for the community. In 2004, Delta had a local staff of nine, including two administrative personnel. Staff levels were not increased during busy times (except employees take vacations during the slow periods), but additional employees were reportedly sometimes added for specific repair and/or maintenance work. There have apparently been comparable levels of employment at the facility in more recent years as well. According to local management, all fishing fleets are served, depending on the season. This business has been in operation since the 1980s, utilizing facilities that date back decades, and it has retained its name despite a corporate takeover in 2000. Busy times include January to mid-April and late June to September with the end of October through the end of December very slow periods, but like many other support service businesses, the peaks and valleys have been less dramatic in more recent years than was previously the case. As of 2008, peaks were characterized as "not as busy," but valleys were described as "just as dead." Overall, sales volumes were described as going down over the years, with a generally "less demand for energy at the dock." With crab rationalization, fewer vessels were seen at the dock, but those that remained active have fished longer, increasing fuel

sales per vessel. Revenue has also declined through a drop in crab pot storage at the facility. Delta does also supply fuel by barge to other communities via the local facilities.

North Pacific Fuel is similar to Delta Western in a number of respects, but in addition to marine and direct sales to local clients, there is also a North Pacific Fuel gas station in the community. North Pacific Fuel has tank farms and provides marine fuel service at four locations in the community, including the former Petro Marine facility on Dutch Harbor; the city dock; the Crowley Marine facility in Captains Bay; and the Westward Seafoods dock, also in Captains Bay. The former Petro Marine facility largely services harvest vessels, with crab vessels representing a significant portion of sales. Sales at the city dock include larger vessels, such as factory trawlers and U.S. Coast Guard cutters. This facility also services a good portion of the pollock harvester fleet. The Crowley facility (leased by North Pacific Fuel) is characterized as North Pacific Fuel's most versatile facility, servicing all types of vessels, in all size ranges, in all fisheries. In addition to having the capacity to do factory trawler offloads like the city dock, this facility also has crab gear storage capacity and other services available. The Westward facility services the processor's powerhouse as well as the Westward fishing fleet. In general, local management attributes approximately 85 to 90 percent of all North Pacific Fuel business as being fisheries related, with the balance being made up of some sales to cruise ships, U.S. Coast Guard and NOAA vessels, tugs, and the occasional tramper vessel, among others. North Pacific Fuel management personnel noted that, in recent years, the changes in fishery conditions have had an impact on employee hiring and retention. Pre-pollock rationalization, workers would come to the community expecting to work a lot of overtime during a relatively short season. With the lengthening of the fishing seasons has come longer work periods, but with less overtime, and getting workers to stay in the community for extended periods of time has proved a challenge. BSAI crab rationalization has reportedly continued this trend and while local management reports that employment levels have remained constant, employee turnover has increased and overall revenues are down significantly as a result of crab fleet consolidation. According to 2008 interview information, crab vessels prior to rationalization accounted for perhaps 40 percent of North Pacific Fuel marine fuel sales, but post-rationalization account for only perhaps 15 percent of sales. Local employment at present (2008) includes 25 full-time employees, with 18 at the fuel facilities and 6 at the gas station.

OSI operates a relatively large facility in Captains Bay that provides a significant amount of support directly related to the offshore fleet, including fuel. 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 following implementation of the AFA. According to local management (in 2008), the crab fleet only accounted for a "minor" amount of the total volume of fuel sales at OSI both prior to and following the implementation of crab rationalization, such that crab rationalization has not had a substantial impact on the business.

One fishery management change that has had a specific impact on local fuel sales was the implementation of the Steller sea lion restrictions in 2000. These restrictions 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 benefited (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.

Other Services

There are a number of other businesses in the community that support various aspects of fishing operations. These include such direct services as gear storage and bait sales, and less direct support services such as lodging, food and beverage services, vehicle rental businesses, and the like. These businesses all derive a substantial portion of their revenues from fishing-related activities. With a consolidation of the crab fleet, there has been a decrease in crab-specific business volume for a number businesses, but how individual businesses have fared with this community-level decrease has varied widely from business to business, based on varying business structures and adaptive strategies as well as a range of other factors not directly related to the crab fishery, such as growth of the cod fishery. The following sections summarize some of the types of impacts seen at these various businesses.

Gear Storage

There are a number of firms in the community that store gear for a wide range of fisheries. With the consolidation of the fleet with crab rationalization, demand for pot storage in particular is down in the community. One of the main independent local companies that hauled and stored pots in the years prior to rationalization was sold to a larger, more diversified firm shortly before rationalization. Pots are currently stored at all three major marine fuel service providers in the community as well as at some of the shipping enterprise facilities. Some pot storage occurs at processors, and other boats store pots on Ounalashka Corporation lands, hauling them with their own trucks. Overall, pot storage is down, but impacts apparently have been spread among a number of multi-service providers.

Bait Sales

The primary commercial bait business in Unalaska operates out of the Harbor Cold Storage facility. Within the crab fishery, this business supplies all of the vessels that fish for Westward, UniSea, and Icicle Seafoods, among others, along with a couple of crab catcher processors. Among changes in the business brought about by crab rationalization has been the stretching out of sales over time, as before rationalization all of the crab bait tended to be sold in a period of 2 weeks to 1 month. According to the local management, however, total bait sales depend more on the quota than the number of vessels participating in the fishery for any given season. Depending on quota levels, crab bait sales may make up between 25 and 40 percent of total bait sales for the business. This makes it difficult to isolate whatever the impacts of crab rationalization itself may have been because quotas have risen even as fleets have shrunk. Further, this business has increased their market share in recent years by obtaining new customers. To date (2008), according to local management, the reduction in the number of crab vessels has not had an impact on the bait business, but again a number of forces are in play, including a targeted strategy to increase market share by obtaining UniSea and Westward as customers around 2006 (both of which formerly bought their own bait and stored it on site).

Lodging, and Food and Beverage Services

Among the less direct services, there have been a number of changes in the community during the span of years since the implementation of crab rationalization. For example, there has been consolidation of lodging services in the community. UniSea still owns and operates the Grand Aleutian Hotel, but Carl's Hotel in the downtown Unalaska area is no longer in business (with this closure occurring as a part of the overall closure of the Carl's Commercial complex, when the owner of that enterprise sold his Unalaska holdings to move to Sand Point and opened a store in that community). One change in recent years at the Grand Aleutian has been their marketing of the community to sports fishermen, and a "pulling back" on tourism marketing efforts in general. While the hotel used to promote sports fishing packages, it no longer does so due to an inability to deliver a product of consistent value to clients, based on charters frequently being weathered out or otherwise canceled due to a lack of sufficient capacity in a shrinking local sport charter fleet. Without active marketing, however, there has been at least a modest increase in local tourism business related to the exposure of the community on the "Deadliest Catch" television series, and there is some tourism lodging associated with birding and other natural resource-related trips, along with interest in Aleut cultural and World War II historic sites. According to UniSea senior hospitality staff, however, the lodging business was and is still centered on commercial fishery, construction project, and government agency-related demand rather than tourism or other recreational endeavors. The UniSea Inn is currently (2008) being remodeled and when completed will have a bar, restaurant, sushi bar, liquor store, and hotel operating on the premises, the latter including approximately 45 rooms, of which 25 will be available for rent to the general public. UniSea reports that its hospitality employment, covering lodging, food, and beverage services, has increased since the implementation of crab rationalization, but that consolidation of service providers in the community has likely played a substantial role in that increase. Otherwise, according to UniSea management, the impact of BSAI crab rationalization on hospitality services in the community has been similar to what was seen following AFA-related rationalization, with a slowing in demand during peak seasons and a more predictable yearly business cycle.

Photo courtesy of Gregory Family

Former Latitudes and Elbow Room Bar

There have been a number of changes in food and beverage service businesses in the community since the implementation of BSAI crab rationalization. In addition to the bar in the former Carl's Commercial complex closing, the Elbow Room, a bar in downtown Unalaska, is no longer open. Prior to going out of business, ownership of the bar, controlled by a local family, passed from one generation of owners to the next (and essentially from one owner to multiple owners), with the recipient generation apparently not interested in continuing the family ownership of the enterprise. These individuals then sold the business to another set of owners who changed the name of the business to Latitudes. Reportedly, there were differences of opinion among the newest owners over the direction of the business, with the eventual outcome being the sale of the business's beverage license to UniSea and closure of the bar. The beverage license sale to UniSea resulted in a larger portion of the overall community beverage licenses being held by that company, which currently (2008) operates beverage service in the Grand Aleutian and is in the process of renovating a

restaurant and bar in the UniSea Inn. While some in the community point to the closure of the Elbow Room specifically as an indication of changes in support sector businesses that have accompanied crab rationalization, especially because of historical association of the Elbow Room with crab fishermen in the local heyday of that fishery, the history of its ownership transfer and sale is complex and may have as much to do with the timing of ownership succession as any other factor. There have been other food and beverage transitions on the Unalaska side of the community since the implementation of crab rationalization as well. Tino's, a local Mexican restaurant/steakhouse, changed hands in recent years and reopened under the name The 3 Amigos. An entirely new restaurant, the Crab Pot, owned by a lifetime local resident, opened in January 2008 in the downtown area of the community in a building constructed in part from what were previously residential structures. The building in the downtown area that used to house Stormy's restaurant remains vacant, although it was used by at least one other restaurant (owned by the current owners of the Peking Restaurant) following the closure of Stormy's itself, with the last closure apparently occurring in 2004.

Photo courtesy of Gregory Family

3 Amigos Restaurant

Photo courtesy of Gregory Family

The Crab Pot Restaurant

On the Amaknak side of the community, there has been more continuity of food and beverage services over the crab rationalization era. In addition to the food and beverage service at the Grand Aleutian, these services are available at the Airport Restaurant and Lounge located in the airport terminal, the Peking Restaurant in the sub dock complex, and Amelia's just off the airport road near the Eagle store complex. This relative ownership stability is attributed to a number of factors. For example, the continued success of Amelia's is attributed by some to a loyal customer base, some of the members of which have known the owner since she first came to the community to work for a processor many years ago. On the other hand, while ownership has remained constant, the owner of the Airport Restaurant and Lounge reported that while currently (2008) business is steadier during the course of the year, it is still down from its overall peak prior to crab rationalization. The Peking Restaurant has been operating in the same location since the 1980s but has had different owners over time. The owner of the Peking Restaurant in 2008 (who acquired it prior to BSAI crab rationalization) expressed more concern with potential market share loss as a result of the ongoing renovation and expansion of the nearby UniSea Inn restaurant than with changes that were attributable to crab rationalization itself. With Peking Restaurant business estimated at being 20 percent local residents and the balance fishermen and processors, however, a loss of fishermen has been felt in terms of overall revenue. According to an estimate made by the owner during a 2008 interview, crab fishery-related business is now estimated to account for 20 to 25 percent of the business, whereas before rationalization it could have made up to 35 to 40 percent of the business. Further, a good share of the business depends on its free delivery service, and with increases in the price of fuel, this has cut into business profitability. Like so many other sectors or subsectors, business outcomes in recent years have been mixed among local food and beverage enterprises as a result of multiple factors being in

play, including internal shifts in market share, which makes attributing particular changes to crab rationalization to any particular business difficult if not impossible.

Vehicle Rentals

There are two main vehicle rental companies in Unalaska, Northport Rentals and B.C. Rentals, both of which have offices at the airport. As of 2008, Northport had six full-time and four part-time employees in the community, including two seasonal workers. According to local management, although revenues are not broken out by client segment so no quantitative information is available to illustrate trends, Northport's business has been diversified enough with rentals to construction enterprises and other businesses from other fishery segments, that the potential impacts from a loss of volume related to crab fleet consolidation have been more than offset by other factors. The company has reportedly continued to grow through the years, likely due to market share growth as well as through overall business development growth. According to local management at B.C. Rentals, however, crab rationalization has resulted in an overall decline in business revenues for that firm. B.C. Rentals typically employs 10 full-time people during A and B seasons and has about 7 full-time employees during the slow seasons. Although quantitative information broken out by customer type is not available, the owner reports that business has declined significantly. While B.C Rentals counted perhaps 100 crab vessels among their customers prior to rationalization, post-rationalization this number has dropped to perhaps 60, with 20 to 30 vehicles rented per day at the most during the busy periods for crab now that the seasons are more spread out. In sum, the impacts of crab rationalization on the rental vehicle business in the community are mixed, in part due to other factors of growth as well as an apparent shift in market share between existing businesses in the sector.

Beyond impacts to any particular type of "other" support business sectors, individuals in multiple interviews made the point that, all things being equal, the loss of crab crew member spending has had different impacts in the community than did pollock crew member spending when that fishery rationalized. During interviews with a number of business owners, crews on pollock trawlers were typically characterized as complying with the zero tolerance policy for alcohol and either working aboard the vessel or catching up on sleep aboard the vessel while in the community. Crab crew, on the other hand, are typically characterized as having historically been of a different nature, spending more time out in the yards, buying gear, patronizing local stores and bars, and generally more actively interacting with the community while in port. Interviewees have offered the observation, however, that with changing conditions brought about by rationalization, crab fishing is becoming more businesslike than was previously the case, and this may have subtle effects on the nature of crab crew-related returns to Unalaska support service businesses.

Shipping

Shipping seafood products is also a major business sector in the community. In addition to the two main shipping lines that move seafood product from the community, American President Lines and Horizon Lines, there are a number of other entities that service different niches. Coastal provides domestic coastal freighter service and provides services to communities that cannot be serviced by larger vessels operated by some others. Northland and Samson provide tug and barge service, with Northland interlinking with the Pribilofs and Bristol Bay, and Samson linking to Sand Point and King Cove, among others. These firms also can serve

communities with lesser port facilities and feed product to larger operations in Unalaska for transhipment elsewhere. (Western Pioneer, a firm that served the community for many years, has more recently sold its vessels and no longer is in the freight business.)

Unalaska has the westernmost container terminals in the state, and the community is strategically located on the Great Circle Route between northern Asia and the west coast of the United States, which is why it has become a major transhipment point. Seafood products from Bristol Bay, Akutan, and other seafood processing facilities in the region (and beyond) move by tug and barge to Unalaska where they are typically transhipped to container ships or other vessels destined for their ultimate marketplace. In addition to container ships, freight movements to and from the community are also handled by tug and barge sets and small coastal freighters for domestic movements, and foreign break-bulk freighters capable of holding frozen product, often called trampers, that are primarily engaged in moving seafood products to foreign countries (Northern Economics 2004).

Shipping in Unalaska did change with groundfish fishery rationalization under AFA, with the largest difference 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 directly to trampers rather than having to always use 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. 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. Other larger-scale factors also play into shipping decisions, from post-9/11 security requirements that limit where trampers can tie up at the various seafood processing plants, to fluctuating market forces that include domestic and overseas demand for seafood and international currency markets that determine the relative strength of the dollar.

Changes brought about by AFA conditions several years ago are still affecting the community. An earlier community profile (EDAW 2005) reported changing patterns whereby an increased ability to schedule both onshore- and offshore-related landings changed the nature of shipping out of the community, with a higher proportion of work going to nonunion longshoremen in recent years. 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. As described in the next section, there is currently (2008) a large construction project going on the community to address this need, particularly for the offshore fleet. 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 has risen in general. 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.

According to interviews conducted for this project in 2008, crab rationalization did not involve the same degree of change among local shipping industry participants as seen in the earlier groundfish rationalization, for several reasons. These include the rationalization-related changes that had already taken place (essentially preadapting shippers to rationalization in other fisheries), the lower volume of crab shipping compared to groundfish shipping, and the lack of complexity of internal fishery sectors (and therefore variety of shipping strategies) compared to the onshore and offshore sectors seen in groundfish fisheries. One shipping manager also suggested that the shipping of crab remains primarily driven by overall crab quota than by other changes in the fishery, such as the length of the season, although other interviewees suggested that since rationalization there has been an increase in fresh product flown out from the community.

Stevedoring

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 most of the 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 nonunion laborers alike who come to the community during the busy seasons to take advantage of the opportunities available in the community. According to union representatives, however, with fishery rationalization in general, including BSAI crab rationalization, there has been a lesser need to bring in individuals from outside of the community as the resident workforce is equipped to handle a lower level of effort that occurs over a longer period of time as compared to short, peak efforts. Among local shipping firms, APL and Horizon are served by the union, Northland has their own crew, while Pacific Stevedores serves trampers and other shipping entities that call on the community and assists Samson with trucking and supplemental labor.

Pacific Stevedoring has American Seafoods and Glacier Seafoods as its primary local clients and is the largest private, nonprocessing employer in the community with upwards of 300 employees during the peak seasons of January through April and July through mid-October. During off-seasons, Pacific Stevedoring employs between 60 and 100 individuals in the community. Pacific Stevedoring historically has done little work with the crab industry due to the relatively low volume generated by that sector and because crab is a relatively sensitive product that is more conducive to container rather than bulk shipping. As a result, Pacific Stevedoring, according to local management, has been

Photo courtesy of Gregory Family

Dutch Harbor Ports Construction Site

unaffected by crab rationalization. Pacific Stevedoring is currently (2008) managing a local harbor construction project for Dutch Harbor Ports, funded by American Seafoods and Glacier Seafoods, that is being built by West Construction. With a planned 970 feet of continuous dock and a large cold storage capacity, the facility is designed primarily for offshore fishing sector support but will be capable of supporting all fleets. The facility will also have dry storage, but this capacity is considered of secondary importance due to the existence of dry storage capacity available for lease from the Ounalashka Corporation.

Remote Operations Support

There are also providers in Unalaska who support inshore processing entities that are operating far outside of the community. For example, the firm (Icicle Seafoods), which 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, which cannot be managed directly from Akutan.

Offshore vessels are supported by a number of entities in the community as well. American Seafoods, a large catcher-processor company, has an office and one employee in Unalaska, down from seven employees under the pre-AFA Olympic system. Transhipments of product are made in Unalaska, which has also served as a logistical support base and a port for crew changes. As noted earlier, American Seafoods is presently (2008) involved with a large dock and cold storage capacity improvement project. As the major partner in the project, they will have priority for transshipment at the new facility, which will have the ability to efficiently offload product from catcher processors direct to trampers. American Seafoods at present has their own equipment for offloads but used Pacific Stevedoring services rather than employing their own local warehousemen. At present, American Seafoods rents four Ounalashka Corporation warehouses for dry storage. OSI also provides a range of fleet support services for vessels for other at-sea processing firms as well for catcher vessels.

In addition to these types of support, there is a range of businesses in the community that handle a variety of expediting, logistical, and ship agent tasks. Though typically small in terms of the number of employees involved, this type of business does provide income for a number of local residents.

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 rationalization has made different fisheries more efficient, it also allowed vessel and facility owners to be more efficient in their purchase of support services. In general, this has meant a decline in peak season local support service activity, employment, and revenue levels. There are no systematic data available to quantify the amount of this decline, but it has clearly been significant for a number of the businesses in this sector over time, beginning with pollock rationalization and continuing through crab rationalization. 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. In general, direct fishery businesses in the community, as well as the municipality itself, have seen substantial gain with rationalization, but the support service impacts have been more mixed.

2.1.3.4 Other Local Business/Service Activity

Tourism

There is interest in continuing to develop tourism in the community, with new draws in the last decade or so associated with an increased local National Park Service presence and the opening of the Museum of the Aleutians. In 1996 the footprint of historic Fort Schwatka at Ulakta Head on Mt. Ballyhoo on Amaknak Island was designated as the Aleutian World War II National Historic Area within the national park system, and the Aerology Building at the airport has been refurbished as a visitor and interpretive center.[22] The Museum of the Aleutians opened in 1999 and is the only archaeological research and museum storage facility in the region.[23] The structure of the building itself incorporates a time line representing Aleut peoples prior to western contact, the era of Russian influence, the post-Russian era, and World War II, and features both permanent and temporary exhibits illustrating aspects of life, events, and the arts in the region over time. Other types of birding, hiking, kayaking, and camping opportunities draw some tourism interest, as does visitation at the Russian Orthodox Church of the Holy Ascension, also known as the Holy Ascension Cathedral, which is listed in the National Register of Historic Places.[24]

The local sport charter fishing sector became established and experienced a surge in popularity 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. According to earlier (2004) interviews with sector participants, in the mid-2000s there were still a total of five local charter businesses, of which three were characterized as proactive business operations and two others that were characterized as less continuously active or more opportunistic participants. According to one charter owner, however, business had hit a plateau as the average size of halibut decreased somewhat and no new records were produced, and changing halibut subsistence and charter regulations have apparently had a hand in limiting growth as well. In 2004, no local derby, normally a vehicle for promoting local charter fishing, was held, apparently due to contentious gear issues, among other factors. As of 2008, according to local interviews, only one individual was still running fishing charters on a more-or-less regular basis. Reportedly, some owners previously involved in charter fishing are picking up the slack in business by doing nonfishing charters, including marine tours, and some long-range charters (for a variety of customers including government agencies, universities, and other research; or publication-oriented entities,

[22] The land and facilities of the Aleutian World War II National Historic Area are owned and managed by the Ounalashka Corporation, with technical assistance provided by the National Park Service.

[23] A private, nonprofit corporation, the Museum of the Aleutians is run by a board with seats occupied by representatives of the City of Unalaska, the Qawalangin Tribe, the Ounalashka Corporation, the Aleut Corporation, and the public at-large.

[24] Consecrated in 1825 by Ivan Veniaminov, a famous Russian clergyman and the first bishop of Alaska, the original church was completed in 1826 and forms the central portion of the existing structure that was expanded significantly in 1894. Considered the first Russian Orthodox church in the United States, it was listed in the National Park Service administered National Register in 1970, rededicated in 1996 after a major restoration, and today retains a large collection of religious artifacts and icons.

such as National Geographic, as well as private individuals), along with some small-scale freight hauling to Akutan and outlying areas. According to one charter operator, 95 to 98 percent of his business used to be composed of fishermen; now birders account for about 30 percent of the business. None of the sportfishing charter operations in Unalaska, even in the busy years, were full-time businesses or the primary source of income for their operators given the very short season, with business being characterized as "dead" before mid-June, busy during July, and fair during August before dropping off completely in mid-September. Beyond charter services *per se*, there was also one enterprise in the community at the time of previous interviews (2004) that ran a remote salmon fish camp in addition to offering traditional vessel charters; more recently that enterprise has not been active. According to several sources, local hotels no longer actively promote sport fishing as a draw in the community because of the lack of reliable access to successful fishing opportunities, due to frequent inclement weather and a lack of a steady base of charter operators, such that it has proven difficult to meet customers' relatively high expectations, given the expense and logistical challenges of getting in and out of the community.

Cruise ships represent another type of tourism activity in the community, and the local Convention and Visitors Bureau and Ounalashka Corporation management estimates that there have been approximately 7 to 10 cruise ships per year calling on the community in recent years. One cruise ship specializing in ecological tours made a total of four calls in 2004. The Alaska state ferry system also brings some level of tourism to the community during the April though October service window. While cruise ships and the ferries do bring individuals into the community who then patronize other businesses, such as a couple of land-based tour operations, the overall economic impact of this type of activity is very modest.

Air Travel

Air travel can be a challenge for getting into and out of Unalaska, particularly during peak seasons, and the high cost and inconvenience of transportation make the development of a tourism sector challenging for local businesses. According to 2008 interviews with local government officials, the scheduled carrier that serves the community (Pen Air) had instituted a "community access seat" policy that gave local residents a better chance at being able to obtain seats during crowded periods, especially for rebooking for flights that had been canceled. Table 2.1-17 provides information on passenger counts at the community airport for the period 1995 through 2007. As shown, the total number of passengers for this span of years peaked in 1996, and counts for the years after 2000 are lower than any of the years 1995 through 2000. With the slowdown in the race for fish that accompanied AFA, direct fishery-related passenger transportation demand apparently also declined to some degree, although clearly demand was falling off prior to AFA.[25] Any further impact of BSAI crab rationalization on passenger counts is not apparent in the data. Counts in the first quarters of 2006, 2007, and 2008 (the latter of which was 14,676 [not shown in the table]), when most opilio activity is seen, were higher than 2003 and 2004 counts, if lower than analogous 2005 counts. Counts for the last quarters of 2005, 2006, and 2007, when most king crab activity takes place, were all higher than the analogous count for 2004, and 2 of the 3 years were higher than any fourth quarter after 2000.

[25] Coupled with these conditions was a decrease in level service caused by a then-recent discontinuation of regular jet service to the community (which itself followed a decrease in service frequency). 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. Although talks have reportedly taken place, Unalaska today (2008) remains without regularly scheduled jet service.

Table 2.1-17. City of Unalaska, Port of Dutch Harbor Airport Passenger Count by Quarter, 1995–2007

Quarter	Calendar Year												
	1995	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
January-March	16,122	20,380	15,992	20,919	15,672	16,461	14,696	15,466	14,027	13,994	15,751	14,850	14,991
April-June	17,209	16,615	15,772	13,683	14,556	16,480	13,988	14,351	14,259	13,522	15,380	15,808	16,061
July-September	18,015	17,105	16,041	12,909	16,312	15,906	16,086	15,502	14,853	14,835	14,517	14,281	15,436
October-December	13,171	13,323	15,380	15,863	13,740	12,596	13,612	13,512	12,130	13,975	13,443	12,321	13,317
Total	64,517	67,423	63,185	63,374	60,280	61,443	58,382	58,831	55,269	56,326	59,091	57,260	59,805

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, 2008. Data were originally configured in fiscal not calendar year format.

Other Businesses

Unalaska continues to support a much wider range of nonfisheries-related businesses as well as fisheries support-related businesses than any other community in the Aleutian/Pribilofs region. According to interviews conducted in 2004, however, business conditions were changing with a general slowdown in the nonfisheries sectors of the economy, a trend at least partially related to then-recent rationalization of the pollock fishery under AFA as well as a co-occurring decline in the crab fishery sector. A number of businesses that served the general public closed around this time, 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 noted at this time was the reduction in the 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. During a 2004 interview, one landlord reported 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 if not unique case, it does illustrate the range of enterprises (and types of fleet support businesses) that went out of business around that time, and whose demise was attributed, at least in part, to earlier (pollock) rationalization conditions (in combination with a downturn in the vitality of at least some other fisheries, including the crab fishery). As noted in the above discussions, additional businesses have closed during the crab rationalization era, both in direct fishery support and other sectors, although a number of other businesses have opened at this same time, including a grocery/general store, two small specialty grocery stores, a restaurant, an auto repair business, an auto parts store, a marine hardware store, and a new apartment complex, among others. There is also increased local construction activity through a major upgrade of "the bridge to the other side" as well as a private harbor improvement project.

Health Care

As noted earlier, some community services are utilized by a nonresident "floating population" associated with vessels working the BSAI area. 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." Formerly classified as a "rural health center" the clinic is now designated as a "community health center" for federal funding purposes and has been since it obtained a full-time doctor in September 2002. This marked the first time in recent years the community had access to physician care by appointment (other then through rotating doctors from outside of the community). In recent years, the clinic has increased its total number of primary service providers, but not the number of full-time equivalent positions. At present (2008) the clinic has four physician positions (including three part-time) and three mid-level provider positions (including two full-time and one part-time). An additional position combines care and administrative functions, such that, typically, a total of seven individuals occupy a total of 3.25 clinical positions. At any one time there are five providers on-site, although the clinic can and has gotten by with four positions on-site when necessary. An additional four medical assistants were added to the clinic budget in 2003. In practice, since that time there have been a total of seven persons providing medical assistant services, including three part-time volunteers, allowing the clinic to run between four and five medical assistants at a time. Most of these individuals are qualified Emergency Medical Technicians as well and are in the call rotation for emergency services. Other service provision personnel include the school nurse, who works at the clinic 1 day per week; two behavioral heath counselors; and a full-time dentist position that

was added in 2004. Additional local clinical services are available for Alaska Native residents and are provided independent of the clinic entity itself (both on- and off-site) via programs administered by the regional Aleutian Pribilof Islands Association; this staff includes a physician's assistant, a community heath aide, and two community outreach workers, along with social service providers. The clinic also provides Head Start program screening and telepharmacy services (for Alaska Natives only). Table 2.1-18 presents selected patient statistics for FY 1999 through FY 2007.

Recently, there have been changes in the way care is being offered at the clinic that is attributed both to changes in clinic staffing and services and to changes in local fishery-related demand, including those associated with the implementation of BSAI crab rationalization. Beginning in 2007, the clinic changed to a team approach to urgent care, splitting providers into an urgent care team and an appointment/clinical side team, with the goal being that the appointment/clinical side team could keep the clinic running to meet the service needs of the residential population on an appointment-driven basis, even during peak fishery demand times. While patients had all been seen on the same day of presentation (if conditions warranted) even before this change, the advantage of the team approach is that appointments can be scheduled and kept in a way that was not possible before. This approach was first implemented during the 2007 A season and so far has been successfully used during the 2007 B and 2008 A seasons as well. Prior to this change, the clinic did not even accept appointments during the A season peak, essentially meaning that residential health care, except for emergencies, was put on hold for several weeks while the peak fishery activity played itself out. Prior to the change in approach, appointments typically were available during B seasons (unlike during A seasons), but it was not unusual for some of those appointments to get dropped. This approach has reportedly been of benefit to staff as well, with less hectic conditions during peak fishery activity times.

Unalaska Department of Public Safety

The Unalaska Department of Public Safety provides a range of services to the community. In addition to a director, department personnel include 9 law enforcement officers, 4 sergeants, 1 supervisor, 5 officers assigned to the jail, 5 dispatchers, 1 animal control officer, 1 department of motor vehicles person, 1 emergency medical services coordinator, 1 fire chief, and 2 paid firefighters, for a total of 31 paid employees, supplemented by approximately 50 fire/emergency medical service volunteers. In terms of using public safety statistics to examine the relationship between changes in fishery management approaches and social disruption in the community, according to the Director of Public Safety, there is a consistency problem in using department statistical reporting over time to analyze public safety conditions for nearly all statistical categories. These inconsistencies could arise and have arisen from a number of factors, including a different emphasis on the value of recording statistics over time, the influence of varying staffing levels on statistics, and the differing foci of different administrations over time, among others. According to current management, however, one consistently recorded indicator that may be of use is criminal intakes, or the number of individual booked into the Unalaska jail. Table 2.1-19 provides information on the number of inmates per month FY 1998 through FY 2007. (The figures in this table represent unique individuals booked into the jail in a given month, not the number of person-days spent in the facility.) As can be seen, there are marked variations from month to month and some general patterns that can be seen to recur over some spans of years. It is the perception of senior management that when large opilio seasons overlapped with large pollock A seasons, and there were large but short king crab seasons in the

Table 2.1-18. Unalaska/Dutch Harbor Community Medical Center, Iliuliuk Family and Health Services, Selected Patient Statistics and Total Revenues, FY 1999–FY 2007

Patient Services/ Visits	Fiscal Year								
	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Office Visits	7,024	6,835	8,279	7,945	9,347	9,369	11,050	10,549	10,269
Medivacs*	55	68	40	41	466	393	688	1,192	581
Emergencies	541	428	393	548	443	592	644	707	673
Ambulance Runs	141	162	181	212	176	161	168	200	229
X-Rays	2,665	2,439	2,820	3,162	3,000	2,612	2,620	2,897	3,083
Patients Registered	9,517	9,585	9,833	9.458	10,666	11,363	13,548	12,728	12,428
Unique Patient Counts				4,466	4,813	4,804	4,957	4,959	4,628
Total Patient Services Revenues	$2,303,331	$2,191,606	$2,633,776	$3,047,226	$3,104,923	$3,428,721	$4,374,767	$4,910,945	$4,831,251

*During 2002 the clinic converted to a new practice management system, changing the medivac category to include medivac services or all services related to medivacable patients rather than actual medivacs. As a result, numbers before and after 2002 are not comparable.

Source: Iliuliuk Family and Health Services - Unalaska/Dutch Harbor Community Medical Center spreadsheet/personal communication S. Handforth-Kome, January 2002, June 2004, and May 2008.

Table 2.1-19. City of Unalaska Department of Public Safety, Number of Inmates by Month FY 1998–FY 2007

Month	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
July	38	26	26	29	29	21	28	39	43	33
August	41	26	29	23	33	51	53	25	43	44
September	34	34	29	24	37	36	35	28	22	38
October	60	49	34	39	51	55	53	42	47	34
November	35	47	15	23	32	35	25	32	31	34
December	36	25	10	21	22	23	27	31	28	22
January	37	37	23	24	25	48	47	34	28	36
February	42	44	46	31	58	38	57	36	33	55
March	53	48	39	33	45	40	62	25	43	44
April	39	24	57	32	40	31	37	24	23	28
May	35	31	26	27	27	38	19	32	20	41
June	33	36	30	15	21	37	36	43	34	34
Total	**483**	**427**	**364**	**321**	**420**	**453**	**479**	**391**	**395**	**443**
Average	**40.25**	**35.58**	**30.33**	**26.75**	**35.00**	**37.75**	**39.92**	**32.58**	**32.92**	**36.92**

Notes: These figures represent individual bookings, with one entry per person. A person may spend up to 30 days in the facility.
Source: Unalaska Department of Public Safety spreadsheets supplied May 2008.

fall, the jail was more full and when seasons stopped, the jail "would empty out." (A typical scenario might be crew members getting into trouble in the community after getting paid and spending money at the bars.) Further, it is the perception of department management that fishery rationalization in general has had the effect of attenuating the peaks and valleys of crime in the community—seasonal fluctuations continue to occur, but not at the pronounced levels of prior years. These patterns are not immediately clear from the intake data, because of a good deal of year-to-year variability, but in most years a peak in the February through March period can be seen, as can a peak in or around October (with a third peak seen in the summer some years). According to the director, conditions at present (2008) are easier on staff with not having to deal with the high spikes in activity, with the only down side being jail maintenance is more difficult as there is almost always at least someone in jail. In prior years, there would be more extended periods when the jail would be empty of inmates; according to the director during 2007 there were only 3 days during the year when there was not an inmate in the facility. Again, according to the director, there has not been much change in the number of inmates or the number of crimes committed in the community; rather, the pattern of distribution has become more even as a result of rationalization in general and BSAI crab rationalization in particular.

Federal Entities

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.

2.1.4 Local Governance and Revenues

Table 2.1-20 provides information on Unalaska municipal revenues as summarized by the Alaska Department of Economic and Community Development. This information parallels the information presented for the other study communities.

Unalaska derives a significant portion of its municipal revenues from fishery-related activities. Table 2.1-21 presents a more detailed breakdown of General Fund revenues by source for the City of Unalaska. This provides a sense of scale for the different revenue sources for the General Fund. Table 2.1-22 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 (first appearing on city statements in FY 1996).[26] As shown, while there has been year-to-year variability, Unalaska fishery-related revenues have generally continued to grow over time.

Table 2.1-23 provides information on direct fishery General Fund revenue as a percent of all General Fund revenue for the City of Unalaska for FY 2000 through FY 2007. As shown, this figure has varied between 39 percent and 46 percent over this time span.

[26] 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 2.1-22 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 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.

Table 2.1-20. Unalaska Municipal Revenues, 1999–2006

Revenue Source	1999	2000	2001	2002	2003	2004	2005	2006
Local Operating Revenue								
Taxes	$11,853,490	$12,775,775	$12,974,407	$13,191,320	$13,957,188	$15,336,539	$15,738,380	$17,260,109
License/Permits	$13,687	$22,018	$0	$18,235	$18,610	$0	$0	$0
Service Charges	$566,459	$586,947	$1,278,988	$617,823	$650,198	$897,644	$1,343,231	$1,469,827
Enterprise	$10,925,442	$11,955,169	$11,838,447	$12,582,856	$13,377,296	$14,539,680	$16,640,254	$19,665,502
Other Local Revenue	$2,793,052	$2,351,981	$4,320,367	$3,777,529	$3,059,837	$1,305,535	$2,110,591	$2,885,921
Total Local Operating Revenues	$26,152,130	$27,691,890	$30,412,209	$30,187,763	$31,063,129	$32,079,398	$35,832,456	$41,281,359
Outside Operating Revenues								
Federal Operating	$336,193	$193,065	$171,089	$963,821	$321,496	$421,434	$906,024	$872,554
State Revenue Sharing	$201,088	$129,402	$103,053	$106,462	$106,094	$0	$0	$0
State Municipal Assistance	$125,281	$83,312	$72,457	$78,721	$79,220	$0	$0	$0
State Fish Tax Sharing	$5,164,608	$4,708,573	$6,062,468	$6,179,983	$7,021,677	$5,870,296	$7,535,735	$7,183,470
Other State Revenue	$1,083,384	$1,073,143	$1,092,958	$557,030	$0	$340,426	$0	$0
Other Intergovernmental	$0	$0	$150,464	$231,831	$1,114,823	$0	$0	$0
State/Federal Education Funds	$2,303,157	$2,453,287	$2,424,152	$2,660,994	$3,729,094	$3,266,372	$3,434,915	$3,542,899
Total Outside Revenues	$9,213,711	$8,640,782	$10,076,641	$10,778,842	$12,372,404	$9,898,528	$11,876,674	$11,598,923
Total Operating Revenues	$35,365,841	$36,332,672	$40,488,850	$40,966,605	$43,435,533	$41,977,926	$47,709,130	$52,880,282
Operating Revenue per Capita	$8,465	$8,483	$9,453	$10,113	$9,899	$9,614	$11,102	$13,421
State/Federal Capital Project Revenues	$217,144	$6,828,094	$309,012	$6,976,007	$0	$32,601	$514,033	$550,555
Total All Revenues	**$35,582,985**	**$43,160,766**	**$40,797,862**	**$47,942,612**	**$43,435,533**	**$42,010,527**	**$48,223,163**	**$53,430,837**
Total All Revenues (2006 Constant Dollars)	**$43,058,402**	**$50,529,677**	**$46,468,073**	**$53,725,573**	**$47,590,236**	**$44,834,951**	**$49,778,749**	**$53,430,837**

Source: Personal communication, DCED, spreadsheet supplied July 2008.

Table 2.1-21. City of Unalaska General Fund, Fiscal Years 1998–2007

Revenues	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Real Property Tax	2,521,746	2,698,454	2,690,560	2,748,920	2,761,870	2,745,607	2,977,042	2,788,421	2,779,242	2,812,590
Personal Property Tax	1,164,363	1,120,957	1,202,265	1,116,369	1,141,598	1,146,305	1,221,300	1,207,222	1,214,105	1,360,267
Raw Fish Sales Tax	2,641,124	2,513,500	3,410,717	3,065,220	3,329,131	3,662,646	4,190,128	3,873,868	4,188,063	4,076,762
General Sales Tax	3,533,123	3,254,403	3,242,284	3,610,653	3,471,559	3,900,356	4,220,411	5,065,219	6,008,072	6,297,674
Other Taxes	439,735	516,863	509,434	524,195	563,576	89,808	44,510	92,071	66,592	61,033
Subtotal, local taxes	**10,300,091**	**10,104,177**	**11,055,260**	**11,065,357**	**11,267,734**	**11,544,722**	**12,653,391**	**13,026,801**	**14,256,074**	**14,608,326**
Intergovernmental State of AK	**6,030,119**	**6,306,064**	**5,640,942**	**6,949,345**	**7,958,632**	**9,291,087**	**7,943,406**	**9,620,414**	**9,635,884**	**11,084,591**
Charges for Services	278,703	282,778	279,159	300,809	356,449	367,364	360,732	371,500	371,807	304,496
Permits & Licenses	19,546	13,687	22,018	20,265	18,235	18,610	20,725	19,957	18,700	20,623
Miscellaneous	2,407,515	2,099,082	1,954,352	3,436,551	3,078,965	40,499	335,064			61,905
Interest Earnings						2,778,566	370,195	5,203,848	1,855,708	4,165,524
Other Financing Sources	386,895	273,416	461,817	398,153	172,440	346,390	39,881	37,358	100,000	545,943
Subtotal Other	**3,092,659**	**2,668,963**	**2,717,346**	**4,155,778**	**3,626,089**	**3,551,429**	**1,126,597**	**5,632,663**	**2,346,215**	**5,098,491**
Total General Revenue Funds	**19,422,869**	**19,079,204**	**19,413,548**	**22,170,480**	**22,852,455**	**24,387,238**	**21,723,394**	**28,279,878**	**26,238,173**	**30,791,408**

Source: City of Unalaska Finance Department spreadsheet, 2001; Personal communication with John Voss, City Finance Director, 2001, 2002; City of Unalaska Finance Department spreadsheet, 2008.

Table 2.1-22. City of Unalaska Selected Fisheries-Related General Fund Revenues (in dollars), Fiscal Years 1991–2007

Fiscal Year	Selected Fishery Revenue Source			Three Source Total
	Local Raw Fish Sales Tax	State Fisheries Business Tax	State Fisheries Resource Landing Tax	
FY 1991	$2,851,008	$2,067,793	$0	$4,918,801
FY 1992	$3,681,908	$2,475,197	$0	$6,157,105
FY 1993	$3,131,661	$3,581,134	$0	$6,712,795
FY 1994	$2,641,802	$2,770,321	$0	$5,412,123
FY 1995	$3,340,512	$2,364,847	$0	$5,705,359
FY 1996	$2,212,833	$2,828,570	$2,637,708	$7,679,111
FY 1997	$2,641,645	$2,071,914	$3,015,804	$7,729,363
FY 1998	$2,641,124	$2,424,747	$2,604,706	$7,670,577
FY 1999	$2,513,500	$2,424,787	$2,739,821	$7,678,108
FY 2000	$3,410,717	$2,483,670	$2,224,903	$8,119,290
FY 2001	$3,065,220	$3,249,218	$2,813,250	$9,127,688
FY 2002	$3,329,131	$3,179,799	$3,000,184	$9,509,114
FY 2003	$3,662,646	$2,838,537	$4,183,140	$10,684,323
FY 2004	$4,190,128	$3,272,188	$2,598,108	$10,060,424
FY 2005	$3,873,868	$3,659,452	$3,876,283	$11,409,603
FY 2006	$4,188,063	$3,446,660	$3,736,810	$11,371,533
FY 2007	$4,076,762	$4,281,211	$4,357,759	$12,715,732

Source: City of Unalaska Finance Department spreadsheet originally supplied in 2001 and updated December 2004 and May 2008.

Table 2.1-23. City of Unalaska General Fund Revenue and Direct Fishery Revenue as a Percentage of Total General Fund Revenues, FY 2000–FY 2007

Year	Local Taxes	Inter-governmental	Other	Grand Total All Revenue	Direct Fishery Revenue Total*	Direct Fishery Revenue as a Percent of All Revenue
FY 1998	$10,300,091	$6,030,119	$3,092,659	$19,422,869	$7,670,577	39.49%
FY 1999	$10,104,177	$6,306,064	$2,668,963	$19,079,204	$7,678,108	40.24%
FY 2000	$11,055,260	$5,640,942	$2,717,346	$19,413,548	$8,119,290	41.82%
FY 2001	$11,065,357	$6,949,345	$4,155,778	$22,170,480	$9,127,688	41.17%
FY 2002	$11,267,734	$7,958,632	$3,626,089	$22,852,455	$9,509,114	41.61%
FY 2003	$11,544,722	$9,291,087	$3,551,429	$24,387,238	$10,684,323	43.81%
FY 2004	$12,653,391	$7,943,406	$1,126,597	$21,723,394	$10,060,424	46.31%
FY 2005	$13,026,801	$9,620,414	$5,632,663	$28,279,878	$11,409,603	40.35%
FY 2006	$14,256,074	$9,635,884	$2,346,215	$26,238,173	$11,371,533	43.34%
FY 2007	$14,608,325	$11,084,591	$5,098,491	$30,791,407	$12,715,732	41.30%

* For this table, "Direct Fishery Revenue" is defined as being composed of Unalaska municipal raw seafood tax and intergovernmental revenues accruing to Unalaska from the state fisheries business tax and the state fisheries resource landing taxes (see Table 2.1-22). It does not include any fisheries influence on other revenue sources.
Source: Derived from City of Unalaska Finance Department spreadsheets supplied December 2004 and May 2008.

Harbor Department

Beyond direct fishery landings related revenues, Unalaska also derives revenues from a number of different activities, including port and harbor activity. Unalaska's harbor, the Port of Dutch Harbor, has seen some changes in utilization as a result of the implementation of BSAI crab rationalization. According to the ports and harbors director and the harbormaster, the most obvious change can be seen prior to the openings of seasons. When BSAI crab was still managed as a derby type of fishery, crab vessels would tie up in the community for tank inspections just prior to openings. With the number of vessels involved, "there were boats anchoring everywhere," which became a safety issue, causing the harbor department to create a "container ship safety fairway" for the safe transit of large vessels. With the implementation of BSAI crab rationalization, and the accompanying consolidation of the fleet and the spreading out of harvest effort, this is reportedly no longer an issue.

According to the director of ports and harbors, rationalization of fisheries in general has had an impact on harbor revenues, but the larger change in revenue accompanied groundfish fishery changes, not crab fishery changes. Information on ports revenue from FY 2000 through FY 2007 is presented in Table 2.1-24. As shown, total revenues increased each year during this period, with the exception of FY 2007. Crab vessels that utilize city facilities currently tend to utilize the Spit Dock and one of two moorage facilities on the light cargo dock. While revenues from the Spit Dock decreased substantially in 2007, this was primarily attributed by port staff to a large portion of the facility being closed for rebuilding rather any fishery-related cause. There has, however, been a decrease in use of the city's light cargo dock for pot movement, one of the primary purposes of that facility when it was originally designed. Vessels have the choice of moving pots across a number of different docks in the community, including private docks, but number of pots moved across the city's light cargo dock decreased from 17,768 in 2004 to 4,694 in 2005, further dropping to 1,485 and 1,067 in 2006 and 2007, respectively (personal communication, Unalaska harbor staff, 2008).

Table 2.1-24. City of Unalaska Ports Revenue FY 2000–FY 2007

	Unalaska Marine Center Dock	Spit Dock	Small Boat Harbor	Cargo Dock	Other Revenue & Fees	Total
FY 2000	$2,325,996	$489,130	$91,349		$120,827	$3,027,302
FY 2001	$2,616,894	$539,429	$88,714	$77,212	$92,915	$3,415,164
FY 2002	$2,884,269	$496,508	$87,889	$57,270	$116,273	$3,642,209
FY 2003	$3,090,519	$553,386	$90,663	$104,832	$23,253	$3,862,653
FY 2004	$3,361,385	$552,891	$102,901	$68,692	$30,284	$4,116,153
FY 2005	$3,335,908	$588,934	$112,003	$173,325	$39,011	$4,249,181
FY 2006	$3,399,500	$460,141	$118,261	$473,302	$59,607	$4,510,811
FY 2007	$3,731,656	$332,233	$102,014	$226,035	$33,366	$4,425,304

Note: All docks and the small boat harbor revenues include docking/moorage and utility fees. The Unalaska Marine Center dock and cargo dock also include wharfage fees and rental fees.
Source: City of Unalaska Finance Department spreadsheet supplied May 2008.

According to harbor department management, however, even with BSAI crab rationalization, the community still could use more dock space in general, and more space for crab vessels in particular. There is a small boat harbor planned for "Little South America" on Amaknak Island, with the breakwater construction currently (2008) out to bid, that will be able to accommodate vessels up to 150 feet and is primarily designed for the crab fleet. According to senior harbor management, it is difficult to ascertain an accurate level of demand for dock space, as vessels needing dock space do not just show up in the community on the chance that space will be available. Rather, they talk with each other and if there is no space available, they make alternate plans often without ever contacting the port. Harbor staffing levels have been steady over the past several years, with a director, a harbormaster, six officers, and two office staff.

2.2 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. 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 roots of commercial fishing in this area apparently include a local saltery that operated in the late 1800s. The Pacific Whaling Company built a whale processing station up Akutan Bay from the village site in 1912 and it operated as the only whaling station in the Aleutians until it closed in 1939. According to local interviews, there was little commercial activity in the area between the closing of the whaling station and 1948, when the processors, including Deep Sea Fisheries, first began using the bay for floating processing operations. 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.

2.2.1 Overview

Akutan is incorporated as a Second Class City, and, like King Cove, is part of an organized borough (the Aleutians East Borough [AEB]). Unlike Unalaska and King Cove, Akutan is a Community Development Quota (CDQ) community. The main processor in Akutan is Trident Seafoods, which has a large shoreplant in the community. In a number of recent years, Trident has also had floating processing capacity in Akutan Bay, as a result of the purchase and relocation of *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 half-dozen years, Trident has been the only processor in Akutan, reportedly in part because seasonal processing with floaters is less economically viable than in the past.

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 shoreplants in the region, but it is also the site of a village that is geographically, demographically, socially, and historically distinct from the shoreplant. This "duality" of structure has had marked consequences for the relationship of Akutan to the Bering Sea commercial fisheries. One example of this may be found in Akutan's status as a CDQ community. Initially (in 1992), Akutan was (along with two other AEB communities, King Cove and Sand Point, as well as 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 …" though they met 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 Aleutian Pribilof Islands Community Development Association (APICDA) and others, Akutan was successful in a subsequent attempt to become a CDQ community and obtained that status in 1996, joining the APICDA CDQ group. 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 in many ways 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.

2.2.2 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, other AEB communities with a single large shore processing plant, Akutan's local processing plant is more of an enclave type of operation than the plants in those communities. In the not-too-distant past, it was decidedly unlike Unalaska, which features plants with a range of "separateness" from the community, as there was little social integration of at least some longer-term plant employees into the social fabric of the community, but this has been changing in recent years in Akutan, as outlined in the community processor characterization discussion below.

2.2.2.1 Total Population

Table 2.2-1 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 considered the 2000 "local" resident population of the community to be around 80 persons, the same figure estimated by senior City of Akutan staff in 2008, with the balance being considered "nonresident 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.

Table 2.2-1. 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. Census Bureau.

2.2.2.2 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 total population of the community, however, may be seen in Table 2.2-2. As shown, less than 16 percent of the population in 2000 was Native American/Alaska Native.

Table 2.2-2. Ethnic Composition of Population Akutan: 1990 and 2000

Race/Ethnicity	1990		2000	
	Number	Percent	Number	Percent
White	227	38.5%	168	23.6%
Black or African American	6	1.0%	15	2.2%
Native American/Alaska Native	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%

* 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 (pop 11).
*** "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. Census Bureau 1990, 2000.

2.2.2.3 Age and Sex

Table 2.2-3 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 2.2-3. Population Composition by Sex, Akutan: 1990 and 2000

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

Source: U.S. Census Bureau 1990, 2000.

Table 2.2-4 provides information on school enrollments in Akutan over the period 1991 to 2008. 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. Enrollment for the 2007–2008 school year was less than one-half the enrollment of the 1992–1993 school year, the peak enrollment year for the time span shown.

Table 2.2-4. Akutan School Enrollment, FY 1991–2008

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
2003	18
2004	14
2005	14
2006	11
2007	11
2008	14

Note: Year designation notes the calendar year in school year ended (e.g., 2003 refers to the 2002–2003 school year).
Source: Adapted from spreadsheet supplied by Aleutians East Borough School District, July 2008.

2.2.2.4 Housing Types and Population Segments

Group housing in the community is almost exclusively associated with the seafood processing workforce. As shown in Table 2.2-5, 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 2.2-5. 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. Census Bureau 1990, 2000.

Table 2.2-6 provides information on group housing and ethnicity for Akutan for 1990, and similar information for 2000 is presented in Table 2.2-7. Group housing in the community is almost exclusively associated with the processing workforce and non-group housing almost exclusively associated with long-term (non-processing-related) residents. Approximately 85 percent of the population lived in group housing in 1990, which represents the extreme of the major fishing ports in this region. In 2000, this figure was over 89 percent. Also as shown, the ethnic composition of the group and non-group-housing segments were markedly different, with the non-group-housing population being predominately Alaska Native (83 percent and 87 percent in 1990 and 2000, respectively), and the group housing population having little Alaska Native/Native American representation (1 percent in 1990, 7 percent in 2000). Like Unalaska, overall minority population representation was higher in absolute and relative terms in the community as a whole and in both group and non-group quarters in 2000 than in 1990.

Table 2.2-6. 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 or African American	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 Population	342	56.53%	298	59.48%	73	82.95%
Total Nonminority Population (White Non-Hispanic)	247	40.83%	203	40.52%	15	17.05%

Source: U.S. Census Bureau 1990.

Table 2.2-7. Ethnicity and Group Quarters Housing Information, Akutan, 2000

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	168	23.56%	158	24.76%	10	13.33%
Black or African American	15	2.10%	15	2.35%	0	0%
Alaska Native/Native American	112	15.71%	47	7.37%	65	86.66%
Native Hawaiian/Other Pacific Islander	2	0.28%	2	0.31%	0	0%
Asian	275	38.57%	275	43.10%	0	0%
Some Other Race	130	18.23%	130	20.38%	0	0%
Two Or More Races	11	1.54%	11	1.72%	0	0%
Unknown	0	0%	0	0%	0	0%
Total	713	100.00%	638	100.00%	75	100.00%
Hispanic*	148	20.76%	148	23.20%	0	0%
Total Minority Population	561	78.68%	496	77.74%	65	86.66%
Total Nonminority Population (White Alone, Not Hispanic or Latino)	152	21.32%	142	22.26%	10	13.33%

* "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. Census Bureau 2000.

Table 2.2-8 displays basic information on community housing, households, families, and median household and family income for Akutan in 2000. These figures underline the fact that Akutan, outside of the processing-related population, is a very small community.

Table 2.2-8. Selected Household Information, Akutan, 2000

Community	Total Housing Units	Vacant Housing Units	Total House-holds	Average Persons per House-hold	Median House-hold Income	Family House-holds	Average Family Size	Median Family Income
Akutan	38	4	34	2.21	$33,750	18	3	$43,125

Source: U.S. Census Bureau 2000.

2.2.3 Local Economy and Links to Commercial Fisheries

The community of Akutan participates in commercial fisheries a number of different ways: through locally owned small vessel harvesting, participation in the CDQ program, having a major seafood processing plant located in the community, 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. It would appear that private sector business ownership is highly concentrated among a very few entities, and the business operating structure has been stable since before crab rationalization was implemented (2004), with the exception of the community's café. The Akutan Corporation owns and operates the Bayview Plaza Hotel and the Salmonberry Inn. The McGlashan store, while named after the original owner of the store in

Akutan, is also owned by the Akutan Corporation. Pelkey's Dive Service, operated by two private individuals in the community, and the Roadhouse Tavern, another privately owned enterprise in the community, are not linked to the Akutan Corporation. The one change in recent years related to the café operating in the community. While the Grab a Dab Café operated in the early 2000s, it went out of business before 2004 (as, according to senior city staff, it was no longer economically viable as a café open to the public with the loss of a key subsidy for electricity). In June 2007 a new café, operated on a lease basis by the same entity that operates the Unalaska airport café, opened in a newly completed Akutan Corporation-owned building.

Table 2.2-9 provides information on employment and poverty status for the community of Akutan for 1990 and 2000. These data paint a very different picture in 2000 than was seen in 1990, and a working knowledge of the fishing industry would seem to indicate the 2000 data are anomalous. For example, in 2000 the U.S. Census lists a total of 505 unemployed persons in Akutan. Given that the traditional village of Akutan consists of less than 100 persons (including all age groups, not just adults in the labor pool who could qualify as employed or unemployed), the overwhelming majority of persons enumerated as unemployed must have been idled seafood processing workers. While this unemployment may have been "real" in the sense that processing workers were present and not actively working when the census was taken, it is most likely an artifact of the timing of the census as processing workers are not typically present in the community when the plant is idle for any extended period of time. That is, under normal conditions, there are no unemployed seafood processing workers present in the community (by design). These workers are transported to and from the community by their employer to meet labor demand at the plant.

Table 2.2-9. Employment and Poverty Information, Akutan, 1990 and 2000

Year	Total Persons Employed	Unemployed	Percent Unemployment	Percent Adults Not Working	Not Seeking Employment	Percent Poverty
1990	527	2	0.4%	7.4%	40	16.6%
2000	97	505	78.9%	84.84%	38	45.5%

Source: U.S. Census Bureau 1990, 2000.

As part of the employment agreement, seafood processors typically provide room and board for workers, so it is uneconomic to have idled workers at the site unless the plant downtime is relatively brief (i.e., the cost of housing and feeding the employees during the idle interval does not exceed transportation, recruiting, training, and other costs associated with sending workers out and bringing them back in, including some level of turnover that always occurs in these situations). One set of circumstances that does result in idled workers at the plant, however, is triggered by a transportation bottleneck. After the plant shuts down (or substantially reduces its workforce) following a busy period, not all of the workers can be flown out of the community at once. According to city staff interviewed for a previous project, it is not unusual to be able to move only 10 to 20 workers per day due to aircraft capacity. Weather may also cause delays.

2.2.3.1 Harvesting

Community Harvester Quantitative Description

An earlier North Pacific Research Board/North Pacific Fishery Management Council (NPRB/NPFMC) funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska* (EDAW 2005), included a quantitative characterization of the Akutan local commercial fishing harvest sector, including detailed information on an annual basis, from 1995 through 2002, of local vessel characteristics, distribution of permit holders, catch and earnings estimates, and landings inside and outside of the community, along with an analysis of the spatial distribution of fishing effort of the local fleet. As updating this information is effort intensive and not central to the current Bering Sea/Aleutian Islands (BSAI) crab rationalization 3-year review-oriented community analysis, it has not been updated for this community profile. Rather, the more qualitatively oriented and BSAI crab rationalization focused discussion in the next section has been updated.

Communities also directly benefit from the harvest sector through participation of residents as crew members as well as the through the engagement of vessel owners and permit holders. Beginning in 2000, the Commercial Fisheries Entrance Commission (CFEC) has produced estimates of crew members by community, based on the number of permit holders in the community, plus the community residents who have applied for a Crew Member License with the Alaska Department of Fish and Game. Table 2.2-10 provides estimates of crew members for Akutan for the years 2000 through 2006. These data should be only taken as a rough indicator of the level of involvement of community members, but they do indicate that a substantial proportion of the total population of the community is engaged in commercial fisheries.

Table 2.2-10. Estimated Number of Permit Holders and Crew Members from Akutan 2000-2006

Year	Permit Holders	Crew Members	Total
2000	6	15	21
2001	CFEC did not develop this report for 2001		
2002	7	15	22
2003	10	15	25
2004	9	13	22
2005	9	8	17
2006	8	13	21

Source: CFEC permit holder and crew member counts by census area and city of residence report, accessed via www.cfec.state.ak.us/Mnu_Summary_Info.htm.

Community Harvester Characterization

Akutan has a local fishermen's association that is a subsidiary of APICDA. With a five-member board and an overall membership fluctuating between 13 and 18 members as of 2008 according to association leadership, the association receives a $20,000 yearly grant from APICDA to foster participation in fishery management and development processes. General membership fees are

$25 per year, with membership rolled into whatever gear loans members have taken, if applicable.

The vast majority of catch landed in Akutan (that is, at the Trident plant 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 small skiff-type vessels from the village of Akutan itself, but participation in this type of enterprise is not well documented. Since that time, several larger vessels were added to the local fleet, but there has been turnover among these larger vessels in recent years. During fieldwork in 2002, plant managers reported about the same overall level of activity as in the past, with two local residents in particular, fishing out of a 28-foot and a 24-foot vessel, respectively, singled out as consistently making regular deliveries of halibut and black rockfish over time, and the rest making sporadic deliveries.

Photo by Vera Pelkey

Akutan Fishing Vessels

In 2008, according to multiple interviews, including the vessel owners, there is one 42-foot fiberglass vessel in the community (*Daybreak*), one 35-foot aluminum vessel (*Aleutian Vista*), and one 32-foot fiberglass vessel (*High Roller*), with the rest of the local fleet being composed of skiffs under 20 feet (the 24-foot and 28-foot vessels active in 2002 are still in the community, but no longer actively fished). Reportedly, all local Individual Fishing Quota (IFQ) halibut, currently (2008) held by seven local residents is fished off of the three larger vessels in the community (supplemented by one vessel from outside the community), with none of the smaller local vessels being actively engaged in commercial fisheries. (The fourth vessel that is used to fish locally held halibut IFQ, *Midnight Sun*, is similar to *High Roller*. It is owned by an Akutan resident, although the vessel spends much of the year outside of the community.)

Further, as of 2008, according to local city, Akutan Corporation, and APICDA CDQ group leadership, there has been a narrowing of commercial fishery focus as no local commercial fisheries are being pursued by the Akutan resident small boat fleet except for IFQ halibut. (According to local fisheries representatives, Akutan sought to qualify for community IFQ purchase, but it did not do so because of its formal classification as a Bering Sea [as opposed to Gulf of Alaska] community for fishery regulatory purposes, despite pursuing fisheries that are, at least in part, physically in the Gulf of Alaska.) All halibut caught by the local small vessel fleet is delivered to the Akutan Trident plant. While this was not a major source of fish for the plant, given its overall scale of operations, it has been an important source of income for local fishermen. While no individuals who fish only in the local resident fleet make their livings exclusively from fishing, local fishermen do depend to varying degrees on fishing as a part of an integrated income strategy in a community that has relatively limited employment and income opportunities. In characterizing the small scale of local fisheries, one of the most active local fishermen stated that "our piece is a line that divides other communities," but this individual also expressed that it is important to keep a critical mass of vessels active in the community as with no quick response U.S. Coast Guard capabilities in the immediate area of the community, having other fishing vessels around is what allows Akutan fishermen to fish safely.

The local resident small boat fleet operates out of the Simeon M. Vincler skiff moorage, the first phase of which was completed in 2002. With the opening of this facility, moorage was easier for local vessels that previously were hauled up on the beach and also allowed for easy of use of vessels too large to easily beach haul. A second phase of the moorage, adding another hook and small float to deflect waves from the direction of the seaplane ramp and increase capacity, was completed in 2005. (This moorage facility was originally constructed with funding from a number of different sources, including APICDA contributions and opilio fishery disaster funds that came to the community through the borough; the second phase was funded by the City of Akutan, the borough, and the state.) While the facility was designed for skiffs up to 28 feet in length, it is currently (2008) being used by the largest local vessels (including the 42-foot vessel) in the resident fleet, although *High Roller* currently winters in the more protected and larger Sand Point harbor and it is likely that *Aleutian Vista* will also winter outside of the community in future years as well.

While the current (2008) vessels in the local fleet are all privately owned by local residents, reportedly the first vessel over 30 feet fished by local community residents was the APICDA vessel *Aleutian Pribilof No. 4* (commonly known as *AP-4*). At times (early 2000s), most, but not all, local IFQ holders had their IFQ fished off of *AP-4*. The advantage of *AP-4* over smaller local vessels was that it can go out in rougher weather and stay out longer. For at least some resident permit holders, these advantages were offset by the need to pay for the boat, skipper, and expenses, leaving less return than they felt they could get fishing out of their own skiffs. *AP-4* operated under a lease arrangement that included a CDQ group grant to the local fishermen's association (which had approximately 14 members and was formed specifically to qualify for CDQ grants). Using this grant as seed money, the operation of the vessel was predicated on a share basis, including earmarking a 15 percent share to the boat and another 15 share for the skipper. According to field interviews at the time, the skipper share did not provide the individual involved with sufficient income to be a full-time commercial fisherman, such that it remained the case that no local harvesters are full-time fishermen.

Following the experience with *AP-4*, which no longer operates in the community, two local residents jointly acquired 42-foot *Daybreak*, and another individual acquired both 35-foot *Aleutian Vista* (which was formerly *AP-3*) and 32-foot *High Roller*. According to APICDA officials, APICDA was involved in providing loans to facilitate building of the residential fleet capacity. According to one individual with vessel ownership interest, the structure of the IFQ program itself has served to influence the composition of the local fleet. With IFQ class sizes transitioning at 36-foot vessels, the 42-foot vessel was acquired to participate in the larger class size fishery component.

There is local interest in diversifying the focus of the local fleet. One local resident was reported to have jigged for cod in 2004 and while APICDA owns jig gear, this was not used during 2004 due to poor winter weather conditions, nor is it now (2008) in use. Apparently *AP-4* was used to try bairdi fishing in 2003, but this attempt was not repeated in 2004. *Daybreak* has to date (2008) tested out jig gear for feasibility but has not yet made significant deliveries of anything other than halibut. *Aleutian Vista* is recently enough acquired that it has not yet (2008) fished out of the community, but its owner intends it primarily to fish cod and serve as a halibut back-up to his primary halibut vessel *High Roller*. *High Roller* to date (2008) has focused locally on halibut, but it has done limited feasibility testing to explore the black cod long line fishery. One local fisherman reports having pursued black bass in the area before that fishery was closed due

to stock issues and the state water black cod fishery before gear conflicts that were contributed to, in part, by storage rules for crab pots reportedly made that undertaking untenable. This same individual reports that there have also been conflicts between local jigging and the small boat pot fishery, such that though there are resources that could be pursued, there are a number of impediments to doing so, for at least some of the fisheries. Currently under study is the potential for development of a local red salmon fishery, under a proposal put forth by a local resident that has reportedly garnered some interest at the AEB and APICDA. In concept, such an early fishery could have eastern Aleutian sockeye potentially to the market in advance of the popular early Copper River salmon, but with the caveat that, if successfully implemented, it would be classed as an intercept fishery, subject to tight harvest parameters to prevent overfishing and provide for both biological stock maintenance and the continued vitality of existing fisheries. According to local fishermen, a Commissioner's Permit has been issued for sampling, and the project proponent is currently looking for a vessel to fill the permit between May and July 2008. Overall, however, cod is more widely viewed as a potential developing local fishery in terms of providing future opportunities for young Akutan residents.

Local Akutan residents do participate in other commercial fisheries as crew members. According to field interviews prior to crab rationalization, in 2004 there were three local residents working on the Prowler factory longline boats (*Prowler*, *Bering Prowler*, and *Ocean Prowler*, which are owned 20 percent each by APICDA) fish for cod and for IFQ black cod, two were deckhands on the Trident trawl fleet, and about six individuals worked as crew fishing for king or opilio crab. These were characterized as overall numbers of individuals involved, rather than individuals involved during any one season or any one year, with participation being intermittent for a number of these fishermen. A post-rationalization study prepared for the Aleutians East Borough "identified four Akutan residents who lost crab fishing jobs due to crab rationalization out of five who were actively crabbing" (Knapp and Lowe 2007:81). Information gained during less intensive field interviews for this project in May 2008 painted a somewhat different picture. According to field interviews conducted in 2008, only three residents were actively crewing on commercial fishing vessels larger than those in the local fleet. One individual, who lives outside of Akutan for the large majority of the year, was serving as the first mate on one of the vessels (which is 20 percent owned by APICDA) in the Prowler factory longliner fleet that utilizes hook and line gear in the cod fisheries (and does not pursue crab). This fisherman had been working with the Prowler fleet for 10 years as of 2008 and essentially had not been living in Akutan for 2 years.

Another local individual, who is a full-time Akutan resident, has most recently crewed on *Barbara J* and formerly crewed on *Farwest Leader* (both of which are 50 percent owned by APICDA and 50 percent owned by Trident, and pursue both crab and pot cod; there is also similar joint ownership of *Golden Dawn*, a pollock trawl vessel). According to this fisherman, crab seasons are less attractive with rationalization because longer seasons mean less time away from the community and a reduced ability to participate in other ventures, including other fisheries, without a significant added income return. This individual has a stated desire of developing local fishing opportunities to the point where crab fishing on vessels from outside of the community would no longer be as attractive as fishing locally.

The third Akutan resident was identified by local officials or fishery representatives as actively crewing on vessels from outside the community and not available for interviewing at the time of the May 2008 fieldwork (unlike the other two) as he was fishing herring in Togiak, but this

individual was characterized as fishing off of the same vessel for a number of years. At least two other individual Akutan residents were characterized as fishing on a fill-in basis on other vessels by local city, Akutan Corporation, and APICDA representatives, while another individual who used to crew out of Akutan has more recently moved to Sand Point. The current level of Akutan resident crewing participation in the crab fisheries specifically is characterized as being lower than many years ago (which was characterized higher than the immediate pre-rationalization years), but this decline was in part attributed to a "graying" of those interested in participating in a fishery that is physically demanding and extracts a toll even on young fishermen, among a number of other factors.

According to both local leaders and senior APICDA leadership, however, if Akutan residents wish to crew on crab or other larger commercial vessels, they have a resource in APICDA—and specifically in APICDA and Trident partnerships—that is not as immediately available to residents of some other non-CDQ communities in the region, such as King Cove. According to senior APICDA leadership, if an Akutan resident (or other APICDA community resident) wishes to crew on these vessels, they can be accommodated. If openings were not immediately available, current crew would not be displaced, but the local resident would be hired to back-fill positions that came open as a result of normal crew turnover, a not uncommon situation.

In the past, Akutan residents have also obtained crew positions on outside crab boats when they found themselves in Akutan short of crew. Historically, crew jobs on BSAI crab vessels were often obtained through social networking with the vessel's skipper or owners, and not having vessels owned or homeported in a community could be a relative disadvantage to local residents seeking crew positions (as has reportedly been seen in King Cove since the implementation of BSAI crab rationalization). In the case of Akutan, however, crewmembers from the community reportedly worked on a more opportunistic than a continuous basis, and one of the ways that these opportunities came up was the occasional times that outside crab vessel crew members were either voluntarily or involuntarily separated from the vessel while in Akutan, at which time local residents would be sought to back-fill the positions for the remainder of the season. With a relatively large number of vessels delivering to the local plant, and the challenges created by Akutan's transportation system to getting outside crew members into the community on a rapid turnaround basis, these opportunities were apparently fairly frequent relative to the size of the local labor pool interested in filling these positions. Reportedly, these opportunities have still continued to arise under crab rationalization conditions, if on a less frequent basis, although reportedly the jobs are now less attractive to Akutan residents due to (1) longer seasons, which make BSAI crab crew employment less compatible with other opportunities in the community, including local fishing and construction, considered important parts of an integrated employment and income strategy as well as preferred family situations (i.e., local employment interspersed with short periods of time away from the community rather than long periods of employment away from the community that interfere with ability to take advantage of local opportunities); and, (2) the perception of decreased ability to make a high financial return per day of fishing effort invested away from the community.

The Akutan delivery fleet for the single processor, including "outside" vessels, was characterized by processing company management for a previous project in 2004 as comprising the following components:

- About 20 "large" boats have 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 have capacities of 150,000 to 300,000 pounds, mainly fishing pollock and cod, and primarily with Kodiak and Newport ownership.
- The crab boat fleet 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 American Fisheries Act, sideboards, and relative stock sizes. This degree of specialization was the only change in the nature of Trident's delivery fleet in recent years (as of 2004) that was described by Trident representatives.
- There is a truly local fleet, composed primarily of skiffs.

In interviews in 2008, the groundfish fleet was characterized by Trident staff as largely unchanged from earlier years, with the exception of the "large" trawl vessels, though still focused on pollock, fishing more cod than in earlier years. With crab rationalization, however, the number of crab vessels delivering to the plant has declined. Further, the local fleet experienced change with the addition of the three larger community based vessels described earlier.

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 benefited from the increase under the American Fisheries Act (AFA) from 7.5 percent to 10 percent of each BSAI groundfish Total Allowable Catch (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 benefited from the increase under crab rationalization from 7.5 percent to 10 percent CDQ allocation of relevant BSAI crab species. APICDA, including the community of Akutan, has participated in the crab fishery via acquiring partial (50 percent) ownership interest in two crab harvest vessels, *Barbara J* and *Farwest Leader*. In general, APICDA has substantial investments in both harvesting and processing sectors of the BSAI fishery.

2.2.3.2 Processing

Community Processor Quantitative Description

An earlier NPRB/NPFMC funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska* (EDAW 2005), included a quantitative characterization of local community commercial processing sectors, including detailed information on an annual basis, from 1995 through 2002, of the number of active processors, species processed, pounds purchased, ex-vessel values, wholesale values by species; processing value added; and relative dependency by species. As updating this information is effort intensive and not central to the current BSAI crab rationalization 3-year review-oriented community analysis, it has not been updated for this community profile. Further, in the case of Akutan, no quantitative information can be released

due to confidentiality restrictions based on the limited number of sector participants. Rather, the more qualitatively oriented and BSAI crab rationalization focused discussion in the next section has been updated.

Community Processor Characterization

Trident Seafoods operates the major shore processing facility in the community of Akutan. Trident first opened a shoreplant 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 occurred 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 multispecies processing facility, and it accounts for a significant amount of regional crab processing as well as groundfish processing. Specific figures are confidential, but as a high-value species crab is 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 at the Akutan Trident plant, there is considerable fluctuation over the course of a typical year. According to senior plant staff, processing workforce staff is at its maximum during January, when there are approximately 900 workers on-site. This level is maintained until April, when layoffs occur, with the workforce dropping to the mid-100s. Employment ramps back up in June to somewhere between 700 and 800 employees on-site, with a maximum of around 900 reached again in July. This level is maintained into November when layoffs again occur, bringing the number of workers on-site back down into the mid-100s through the balance of the year. According to senior staff, there was little change in overall employment levels, seasonal patterns, or composition for several years leading up to crab rationalization, with pollock remaining the driving force for Akutan employment dynamics. During periods when pollock and crab operations both required significant effort (primarily opilio season), the pollock product mix could be adjusted to less labor-intensive forms (surimi instead of fillets). The same labor force would then be used for all operations, adjusted as necessary in size by sending people out of Akutan as the need for labor decreased once the pollock season was over.

Following the implementation of crab rationalization, overall levels of employment have reportedly not changed much at the Akutan Trident plant, but the duration of crab processing employment has increased. This has had less of an impact on operations during opilio processing, when a number of other operations are occurring at the plant, than during Bristol Bay red king crab processing, when fewer other activities are taking place. Specifically, according to senior plant management, the timing of opilio deliveries can be coordinated with other plant activities to optimize efficiency in a way that is not possible during the Bristol Bay red king crab season. Crab rationalization has been characterized as having both advantages and disadvantages for local plant operations, with trade-offs including the ability to produce a wider variety of more desirable (higher value) finished products versus the increased costs of a longer season. On balance, there reportedly have been relatively greater gains with rationalization for opilio operations than for Bristol Bay red king crab operations.

In addition to its shore facility, Trident has at times operated the floating processor *Arctic Enterprise* in Akutan Bay. Previously operated in Beaver Inlet on Unalaska Island, it was the only floater operating in Akutan Bay on an ongoing basis as of 2004, but according to interview information gathered in 2008, whether or not the *Arctic Enterprise* operated in the community during any given year more recently has been a function of pollock quotas, with the additional processing capacity represented by the floater not needed during lower quota 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 (EPA) declared the inner portion of Akutan Bay an "impaired water body" with the result that floaters could not operate in that area. According to city officials, the bay has subsequently moved up on EPA's water quality scale as restrictions placed on Trident have improved conditions, but the inner bay remains off limits to any further processing, and floaters have not returned in number. *Arctic Enterprise* has operated outside of this inner bay area, but still within Akutan Bay itself. According to city officials, other mobile processing capacity for crab was brought in by Trident at times in the years prior to the implementation of crab rationalization to help with finishing up during crab seasons.

According to interviews with community residents, no long-term local residents work at the processing plant (apart from a few individuals who came to Akutan to work at the plant as noted below), despite the fact that the company offers a "town premium" wage. This is reportedly due to the long workdays, which can exceed 16 hours during peak times. The very thing that makes processing attractive to many nonlocals—the ability to earn quite a bit of money working very long hours over the course of a few weeks or months—makes in unattractive to locals who have obligations outside of the workplace. According to one resident, it is difficult to have a family if you work 12-hour days, much less longer days.

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 because the Trident site is more or less an industrial enclave and is separated from the village proper by Russian Orthodox church-owned land (part of which the city leases for a warehouse and a ball field), the sea plane ramp, and coastal bluffs. Access and interaction have changed at least to some degree in recent years, however, due to several factors. First was the opening of a beach level road connecting the seaplane ramp (which is connected to the residential community by road and a boardwalk system that is used by both pedestrians and all-terrain vehicles) to the Trident site. Prior to this road being built, the plant could be reached from the community only by boat or by a hiking trail that traversed coastal bluffs so steep that one section of the trail had a fixed rope to assist walkers. A second factor was the construction by Trident of a nondenominational church and gymnasium/community building that is utilized by plant workers and local residents alike.[27] This building houses a modest-sized church, attached living quarters for a minister and family members, 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

[27] According to city officials, Aleut residents of the community have remained members of the Russian Orthodox faith and view the Trident-built church as somewhat of an outside institution, considering the Russian Orthodox church to be the only Akutan church. Reportedly the Trident-built structure is typically referred to by long-term residents of the community as "the Trident Church" or simply "the gym," with the latter designation highlighting the local importance of having access to a full-size gym where residents can participate in basketball games, a very popular participation sport. The nondenominational church operations are overseen by a committee that hires the minister and oversees operations, and this committee is reportedly not a local institution.

the seaplane ramp on privately owned land and the gym in particular attracts individuals from both the plant and the community, fostering social interaction. (The school gym, which used to draw plant workers for recreational activities, is now only used by children, according to city staff, as it requires a supervisor during open recreation, whereas, at the Trident church/gym, supervision is provided by the resident minister's family.) A third factor was the opening of the Akutan community library, museum, and recreation center located within the village itself that also draws patrons from both the plant and the rest of the community. The availability of computers at this facility is reportedly very popular with both processing workers and fishermen passing through the community. As in years past, plant workers make incidental purchases at the village store, cash checks, and frequent the Roadhouse tavern adjacent to the community that is also patronized by village residents.

Another change in recent years in terms of the social interaction between the Trident facility and the village proper has been the integration of some long-term Trident personnel into the fabric of the community. In the not-too-distant past, this was not reported to occur and for many years no Trident employees lived in the residential portion of the community, and no residents from the village proper worked at the plant. Not long ago, however, one Trident manager married into the community and lived in the village for a while before he and his family moved to another community. More recently, a second Trident worker married a local, moved into the village proper, and left Trident employment for other local employment. Further, a Trident manager who had been working at the local plant for many years was first elected to the city council in 2002 and is currently (2008) on the council; this same individual has also been engaged in the larger community over the years through service in the local EPA Indian General Assistance Program (IGAP) community group and has otherwise assisted the community through his involvement in local emergency planning efforts. Additionally, when reapportionment opened up a second Akutan seat on the AEB Assembly, a long-time local Trident manager was elected to fill that position (with the other position currently [2008] filled by the Akutan mayor). He and at least a few other long-term employees living at the plant site now consider Akutan their primary residence. (In Akutan, as elsewhere in Alaska, individuals are eligible to vote in local elections after 30 days of residence and city officials report that about one-third of local voters are Trident employees.)

These various types of significant social integration, unknown in the past, are apparently becoming more common over time. While housing and land use factors will likely mean that there will not be the same degree of social integration between the community and the processing industry in Akutan that is seen in Unalaska, it is occurring in the community on a smaller scale. City officials do report that in the mid-1990s, two women from the community did work at the plant for approximately 2 years, but found it difficult to maintain a family life and arrange for child care given the long hours inherent in processing work during busy seasons. Trident is viewed as continuing to be open to hiring local community residents, but on the whole processing employment is seen as being very difficult to balance with family responsibilities.

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, according to interviews with APICDA staff. 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. Also according to APICDA staff, APICDA

partners with factory trawler (F/T) *Starbound* (of which it owns 20 percent) and one or more Trident catcher-processors 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 F/T *Starbound*. According to the APICDA website, APICDA halibut CDQ is primarily harvested by small vessels based out of its member communities, while APICDA sablefish CDQ is typically harvested by its own vessels in the Bering Sea. Aleutian Islands APICDA CDQ is typically contracted to F/V *Aleutian Spray* and delivered to the APICDA member community Atka (and Atka Pride Seafoods) for processing (APICDA 2008). Other APICDA CDQ species are harvested and processed primarily through non-Trident enterprises.

2.2.3.3 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, other than a small skiff moorage facility, or an airport in the community, with air service limited to amphibious aircraft servicing the community out of Unalaska. There is also very little privately held land available for development in or around the community (outside of lands held by the local Akutan Corporation).

There has been investment by APICDA in the local skiff mooring basin that helps local residents keep their vessels in the water, and APICDA was involved with obtaining a trailer that could handle up to 45-foot vessels to facilitate getting local small boats in and out of the water, but the trailer proved to be little-used and was subsequently shipped to St. George where it could be more effective. 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. The Final Environmental Impact Statement has been completed and Record of Decision has been signed for this project, which includes a 12-acre basin that would accommodate up to 58 vessels (which would service the larger locally owned fishing vessels and the outside vessels delivering to the local processing plant, among others), but funding is still (2008) being completed and construction remains in the future. According to earlier interviews, 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. As characterized by one fisherman (in 2008), in Akutan, "you either fish or do construction."

The only direct fishery support business in the community at present (2008) is Pelkey's Dive Service, which involves the two owners plus a couple of helpers on occasion. This operation caters in part to fishing vessels, changing zincs and clearing fouled propellers, among other services. Originally introduced to the dive business by an individual diving for Trident in the early 1980s, Trident has reportedly continued to steer local business their way. This business has also performed underwater maintenance on the main town outfall and the freshwater line since the mid-1980s but is not a full-time enterprise. The owners of this company are also involved in marine pilot work, as well as enterprises that are not directly fishing or marine support oriented. According to a post-rationalization study prepared for the AEB, "one fishery support business reported a loss in revenue due to crab rationalization. The owner of a dive service estimated an annual loss of $10,000 in the [first] post-rationalization season" (Knapp and Lowe 2007:81). When interviewed for this project in May 2008 after 3 years of rationalization, one of the owners

of this company reported that overall there has been some decrease in crab vessel-related revenue and a fluctuation in the overall annual cycle of dive work due to rationalization, but that overall the business (including the volume of diving) and revenue (which is one of a suite of entrepreneurial pursuits, including fishing, for both partners) was characterized as not being dramatically different than it was pre-rationalization, although it may take longer in a given year to achieve the same financial return. When asked in 2008 specifically about the reported dip in dive revenues the first year post-rationalization, the owner reported that the decrease in revenues seen in the first post-rationalization year was due primarily to several factors not directly related to rationalization, including travel outside of the community by one of the owners, involvement of a nonowner filling in for the absent owner, and a focus at the time by the business owners on other, non-dive-related, projects. How much of the difference in reported short-term outcomes for the business is a function of differences in recollections over time is unknown, but it is apparent that three years after the implementation of the BSAI crab rationalization program, at least one of the owners of the business perceives that rationalization has not had long-term adverse impacts on the business. As an indicator of overall continuing local dive business opportunities, one of the owners of operation reported that in recent years they have been in the position of turning down additional dive work for the Trident plant.

There are other enterprises in Akutan that derive benefits from the fishery in less direct ways. The Akutan Corporation does derive economic benefits from the local shoreplant through sales of goods and services to local seafood plant employees at the community store the corporation owns and operates. Processing workers utilize the store for check cashing purposes, for which they are charged a 10 percent cashing fee. According to corporation management, sales to processing workers commonly include rice, canned foods, and microwavable foods, with processing worker business accounting for perhaps 20 to 25 percent of the overall store business, while fishing vessels account for perhaps another 10 percent, which has been consistent pre- and post-crab rationalization. The corporation also encourages store sales to vessels by offering 10 percent boat case lot discounts. According to corporation staff, although vessels 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 Alaska Native Claims Settlement Act (ANCSA), a private individual outside of the community obtained ownership of three parcels of land: the parcel on which the processing plant is located, a parcel across the bay from the community that is the site of a pot dock, and a parcel near the head of the bay that was the historic site of the local whaling station. Although according to city officials these lands changed hands in the late 1990s, they have remained in private ownership outside of the community. Until recently, the only land leased by the Akutan Corporation to the seafood processor was the antennae site on the hill above the processing facility. In 2004, however, Trident began leasing 67 acres of corporation land on the hillsides near the plant as an "impact area" lease. This lease arrangement was necessitated by plant emission levels exceeding a threshold determined in part by the existing footprint of the plant.

The Akutan Corporation does derive at least some income from direct and 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 rooms 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. (This facility also derives business from Caterpillar mechanics and electricians in the community on a short-term basis, as well as transient health care- or school-related personnel.) In 2007–2008 this facility underwent a refurbishment project (following an Akutan Corporation buy-out of a partnership that involved a Unalaska-based entity) that required hiring an additional four employees at the peak and as of May 2008 still accounted for one construction position over the usual facility employment level.

The Salmonberry Inn is a former processing bunkhouse facility that was obtained in a land swap with Trident in a straight-up exchange for land contiguous with the main Trident facility. Currently (2008) configured for 34 beds, the facility derives processing-related business, particularly when the processing activity ramps up during both A and B seasons, when Trident leases the facility for a combined total of 3 to 4 months of the year. In the past, this has been characterized a more-or-less break even operation for the Akutan Corporation, but it does provide economic activity and an augmented level of employment.

The Akutan Corporation also built the local post office building and utilizes the lease income for other enterprises. This may be considered partially related to commercial fishery, as postal service demand does feel the influence of commercial fishing activities. (The Akutan Corporation, as part of a coalition involving a few other Aleutian-Pribilof region communities along with a village in Alaska's interior, is also a participant in a cattle ranching operation on nearby Akun Island, which is also the planned site of a new airport for Akutan that has received a Record of Decision on its environmental documents but is not yet funded.)

Most recently, the Akutan Corporation built and leased out the operations of the Bayview Café, a restaurant that is patronized an estimated 75 percent by Trident processing workers and has a menu that includes Asian cuisine. Opened in June 2007, the Akutan Corporation desired the restaurant to remain open year-round, but it was closed during April and May 2008, which was partly attributed to transportation bottlenecks. This business brings three employees into the community from Unalaska when it is operating and it also typically employs one Akutan resident as a delivery person, with a second local hire added during especially busy periods at peak fishing activity times. According to senior Akutan Corporation staff, the café has been a positive influence on the community as it serves as a business and work ethic model for community youth, who spend time at the business and have positive interactions with the operators.

Another business in the community that derives income from fishery-related activity is the Roadhouse tavern. Owned by private individuals from Akutan who are no longer physically resident in the community, this business regularly draws patrons from both the processing plant workforce and the community itself. According to a family member, the Roadhouse was opened in 1964 and continues to be operated by members of the same family, with about 25 to 30 percent of the business volume attributable directly to commercial fishing activity, but which indirectly accounts for much more as it does for other local businesses. As of 2008, the tavern employed three Akutan residents full-time, and an additional two local residents had been through required alcohol training classes and were available on a part-time as-needed basis for peak periods. According to the tavern operator, crab rationalization and the changing of the seasons have not made a significant difference in the business over the course of a typical year.

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.

Akutan is a small enough community that nearly the complete range of employment can be characterized. Among permanent, long-term community residents, the large majority of employment is linked to the public sector. Of these residents, the largest employer is the City of Akutan, which as of 2008 accounted for 10 salaried positions and 3 permanent part-time positions, up 1 each from 2004 pre-crab rationalization levels, along with up to 20 hourly variable part-time workers who may get at least some work during the year. The Traditional Council accounts for another two full-time positions, and the IGAP environmental watch function accounts for two full-time (an increase of one over 2004 levels) and one part-time position. Health care-related employment includes three full-time clinic workers (including a community health practitioner, one mid-level practitioner, and one technician), along with one person who administers a number of health and social service programs, such as a range of programs encompassed by the Rural Alaska Community Action Program, Inc. (RurAL CAP), and a suicide prevention program, among others. (The clinic is owned by the City of Akutan, leased to the Indian Health Service, and operated by the Eastern Aleutian Tribes.) Local employment specific to the school is limited to a teacher's aide position. Other employment includes six positions with the Akutan Corporation (three full-time jobs, including two office workers and one weekday store employee, along with three part-time jobs, including a weekend store employee, hotel service, and a maintenance position), and one local position with APICDA. Project-related employment of limited duration is also important in the community and in 2007–2008 has included construction of a new city administration building, construction of the new café, construction of an Aleutian Housing Authority four-plex, and the refurbishment of the hotel, plus ongoing water/sewer project work. Additional work is slated for a new city garage for the fire department, the funding for which was obtained through an Aleutian/Pribilof Islands Association grant.

The only unambiguously private sector employment among permanent community residents is related to the dive business previously noted (which does not provide steady work), along with limited employment at the tavern, and an estimated three to four individuals who intermittently pick up stevedoring or longshore work, moving containers and working on barges and trampers. As noted previously, the Trident plant does not currently (2008) draw any workers from the permanent village resident labor pool. Additional local employment that typically draws from other than permanent, long-term residents includes teaching positions at the school, a mid-level practitioner position at the clinic, and a pastor's position at the Trident nondenominational church.

One recent change as of 2008 is the ability of CDQ to invest 20 percent of royalties in nonfishery businesses within the region. The impact of this change remains to be fully seen in Akutan, but it is noted as a positive fisheries-related change.

2.2.4 Local Governance and Revenues

In addition to benefits derived from an AEB 2 percent fish tax, 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/Guideline Harvest Levels (GHLs). Table 2.2-11 presents information on Akutan municipal revenues for 1999 through 2006 from the Department of Community and Economic Development (DCED). As with 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 have been characterized in the past by city management as being "not very large amounts." Akutan does not have a local sales tax or property tax.

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. Trident does currently (2008) lease 21 acres from the City of Akutan where it stores shipping containers. As part of the lands between the processor and the community, the status of this lease is exceptionally complicated, as previous land ownership and leasing rights within this area involved such entities as the Bureau of Indian Affairs, a previous seafood processing enterprise, the Akutan Corporation, and the City of Akutan. After several years of working the relationship out, Trident currently pays a lease that is considered fair market rate to the city, which the city then turns over to the Akutan Corporation. Current or planned developments on other portions of this land that do or will have a reversion clause include the Trident nondenominational church and some planned housing. The area used for shipping activities is designated for continuing use under a renewable lease, and future plans include building/ expansion of a dock and related structures, which likely will result in increased city revenues in the long run.

As noted above, there are two major governmental infrastructure projects in the planning stages for Akutan. The first is an airport to be constructed on nearby Akun Island, which would be connected to the community of Akutan via hovercraft service, which, according to plans, would be the same AEB-owned vessel that is currently in service on the Cold Bay to King Cove link. According to senior AEB staff, contracts for the airport facility may be let as early as 2009. The other major project, the new Akutan small boat harbor, is also in the planning stage, but is on a longer time horizon with funding less secure to date (2008). Either of these projects has the potential to provide significant employment and income opportunities to Akutan residents.

Table 2.2-11. Akutan Municipal Revenues, 1999–2006

Revenue Source	1999	2000	2001	2002	2003	2004	2005	2006
Local Operating Revenue								
Taxes	$430,095	$559,219	$647,147	$614,300	$749,782	$713,568	$784,220	$894,985
License/Permits	$0	$0	$0	$0	$0	$0	$0	$0
Service Charges	$51,488	$56,392	$103,103	$79,303	$19,013	$38,307	$56,440	$57,486
Enterprise	$216,493	$266,416	$166,042	$334,749	$333,636	$404,824	$346,321	$361,482
Other Local Revenue	$96,016	$127,420	$182,224	$116,482	$99,201	$121,220	$129,449	$453,003
Total Local Operating Revenues	$794,092	$1,009,447	$1,098,516	$1,144,834	$1,201,632	$1,277,919	$1,316,430	$1,766,956
Outside Operating Revenues								
Federal Operating	$0	$0	$25,370	$0	$31,451	$0	$29,000	$0
State Revenue Sharing	$25,969	$24,986	$24,987	$24,987	$25,614	$0	$0	$0
State Municipal Assistance	$7,650	$6,813	$7,523	$7,523	$12,612	$0	$0	$0
State Fish Tax Sharing	$558,663	$654,402	$756,180	$720,466	$183,340	$794,261	$924,104	$918,998
Other State Revenue	$50,025	$6,300	$6,300	$0	$0	$40,000	$67,188	$14,932
Other Intergovernmental	$0	$2,537	$0	$139,994	$0	$0	$112,000	$0
State/Federal Education Funds	$0	$0	$0	$0	$0	$0	$0	$0
Total Outside Revenues	$642,307	$695,038	$820,360	$892,970	$253,017	$834,261	$1,132,292	$933,930
Total Operating Revenues	$1,436,399	$1,704,485	$1,918,876	$2,037,804	$1,454,649	$2,112,180	$2,448,722	$2,700,886
Operating Revenue per Capita	$3,521	$4,011	$2,691	$2,724	$1,848	$2,739	$3,167	$3,644
State/Federal Capital Project Revenues	$0	$0	$56,647	$408,219	$0	$220,627	$215,299	$141,410
Total All Revenues	$1,436,399	$1,704,485	$1,975,523	$2,446,023	$1,454,649	$2,332,807	$2,664,021	$2,842,296
Total All Revenues (2006 Constant Dollars)	$1,738,163	$1,995,495	$2,250,087	$2,741,069	$1,593,789	$2,489,645	$2,749,957	$2,842,296

Source: Personal communication, DCED, spreadsheet supplied July 2008.

2.3 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. Often referred to by residents and others in the region simply as "the Cove," King Cove is about 18 miles southeast of the community of Cold Bay, 75 miles west of Sand Point, and 625 miles southwest of Anchorage. Although there are numerous pre-contact sites throughout the area, the contemporary community of King Cove traces its name to the 1880s when English immigrant Robert King married a local woman, became a trapper and sea otter hunter, and moved with his family to the cove. The present structure of the community can be traced to 1911 when Pacific American Fisheries built a salmon cannery on the present-day town site. According to local sources, early population growth was precipitated by the plant, as Aleut and Yupik Alaskans came to work at the cannery along with Japanese and Chinese workers brought in by the company, with Scandinavian fishermen following. The cannery operated continuously between 1911 and 1976, when it was partially destroyed by fire. This plant operated under the name Pacific Alaska Fisheries before it became part of Peter Pan Seafoods (PPSF). The adoption of the 200-mile Exclusive Economic Zone fisheries limit spurred rebuilding. Incorporated in 1949, 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 Aleutians East Borough [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.

2.3.1 Overview

Early permanent residents of King Cove were Scandinavian, Euroamerican, and Aleut fishermen, with an estimated half of the founding families consisting 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 PPSF, and the plant processes salmon, crab, and halibut, along with pollock, Pacific cod, and other groundfish. Other species, such as herring, are processed occasionally. At present (2008) there is also a salmon co-op that purchases salmon on the Alaska Peninsula, with processing taking place on a floating processor, but typically this floating processor operates on the fishing grounds, not in the community itself.

King Cove, in some respects, is like and unlike both Unalaska and Akutan. Like Unalaska (and unlike Akutan), King Cove is incorporated as a First Class City, but like Akutan (and unlike Unalaska) it is part of an organized borough. Like Unalaska (and unlike Akutan), King Cove is not a CDQ community. Like Akutan (and unlike Unalaska), King Cove is a one-processor town, with some historical attributes of a "company town." King Cove is a historical commercial fishing community that has had processing facilities as part of the community for decades, like Unalaska; however, unlike Unalaska it has long had a significant residential commercial fishing fleet that delivers to the local seafood processors.

2.3.2 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 the employees are much more transient than other King Cove residents and are not considered truly "local" residents as are those with other occupations and who do not live in company housing. Reportedly, the city council is dominated by, if not exclusively composed of, individuals who commercially fish for at least a portion of their living. As of 2008, four of the six members of the King Cove city council were commercial fishermen (though most if not all of these individuals also engaged in other entrepreneurial pursuits in the community). Of the two other city council members, one is the owner of one of the local stores and the other is a retired PPSF employee.

2.3.2.1 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 2.3-1 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 2.3-1. 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. Census Bureau.

2.3.2.2 Ethnicity

The ethnic diversity of population associated with an imported fish processing workforce is evident in Table 2.3-2. 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 2.3-2. Ethnic Composition of Population King Cove, 1990 and 2000

Race/Ethnicity	1990		2000	
	Number	Percent	Number	Percent
White	127	28.2%	119	15.0%
Black or 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. Census Bureau 1990, 2000.

2.3.2.3 Age and Sex

Table 2.3-3 provides information on age and the male/female ratio of King Cove's population. As shown, the community population is predominantly male. This is consistent with a significant proportion of the overall population being composed of a transient male-dominated processing workforce, although the male-female imbalance was somewhat less in 2000 than in 1990.

Table 2.3-3. Population by Age and Sex, King Cove: 1990 and 2000

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

Source: U.S. Census Bureau 1990, 2000.

King Cove school enrollment figures obtained from the AEB School District 1991 through 2008 are displayed in Table 2.3-4, along with enrollment figures obtained from the school itself for a subset of those years. While enrollment figures from these two different sources vary somewhat, the overall trends are consistent between the two sources. As shown, there was a peak of enrollments in the mid-1990s, and a subsequent decline, with the most recent data available showing a current student population of less than two-thirds the size of the peak student population during this time period.

Table 2.3-4. King Cove City School Enrollment, FY 1991–2008

Fiscal Year	Student Count (District)	Student Count (Local)
1991	148	NA
1992	150	NA
1993	157	NA
1994	159	NA
1995	154	162
1996	139	150
1997	143	143
1998	142	130
1999	129	133
2000	112	115
2001	124	122
2002	119	116
2003	105	103
2004	103	105
2005	100	102
2006	93	99
2007	90	100
2008	100	101

Note: Year designation notes the calendar year in school year ended (e.g., 2003 refers to the 2002–2003 school year).
Source(s): District numbers adapted from spreadsheet supplied by Aleutians East Borough School District, July 2008. Local numbers from manual tabulation supplied by King Cove school staff, September 2002, October 2004, and May 2008.

It is difficult to assign causality of the drop in student counts to any specific fishery or other economic conditions, but clearly the overall difficult economic conditions of some previous years have been cited as the reason for declining enrollments, but an improvement in economic conditions in more recent years has not seen a rebound in enrollments. Enrollments appear to have plateaued since 2003 (which corresponds to the end of the most recent stretch of particularly difficult times for the community) rather than continuing to decline.

With declining enrollments and overall funding challenges in the early 2000s, the King Cove school combined grades 1 and 2, as well as 3 and 4, and 5 and 6. Budget difficulties also

brought about the recent elimination of two teaching positions. As some funding is based on a student count basis, continuing declines in enrollment also meant a number of budget cuts. Beyond combination classrooms and cuts in teaching positions, the school also restructured other services it provided, such as the lunch program, and some specialty classes and certified counseling services were discontinued (although some counseling remained available). As economic conditions have improved, budgets and staffing levels have stabilized and a number of programs have been restored or expanded. Given the continuing importance of maintaining enrollments, however, potential candidates for various positions in the community who have children are particularly valued.

Photo by Della Trumble

King Cove School

In the King Cove school elementary grades, a total of four teachers in 2008 were assigned to grades 1 through 6. In the everyday teaching environment, students are grouped by levels of attainment rather than strictly by age-determined grade groupings, so unlike in some previous years (such during 2004, when a previous round of crab rationalization-related fieldwork took place and the community was dealing with difficult budgetary choices following a series of off years in a number of the local fisheries), the strategy of combination of grades is not as evident today with 1.5 grade levels per teacher (or less if the elementary school-level special education teacher is included in the computation). In the high school division of the school, at present (2008), a total of seven teachers are assigned to six grade levels, for a teacher-to-grade level ratio of better than 1. According to the school principal in 2008, all core classes in King Cove are taught by teachers classified as "highly qualified" under the federal administration's "no child left behind" program standards. The current school administration also points to a number of benchmarks of achievement of current students in the school, including the award of a Gates Millennium Scholarship (of which there were reportedly about 20 in Alaska), and awards through the University of Alaska Anchorage's (UAA) Scholars Program.

Despite these academic achievements, school leadership reports that it can be difficult to motivate students in King Cove to work to excel in school and focus on an academically oriented career when school-aged minors can make $30,000 to $40,000 per summer (outside of the regular academic year) by participating in the local salmon fishery. With local fisheries enjoying a period of relative stability in 2008 compared to a number of recent previous years, this can be a powerful post-high school career draw for students, but during the 2007–2008 there was only one reported incident of a student taking time off from school to participate in a commercial fishing season.

A local offering of a limited range of high school classes also reportedly provided an impediment to keeping students motivated, so the school has turned to a number of "distance learning" opportunities where students can participate in classes offered elsewhere via real-time video link. For example, during the 2007–2008 academic year, a total of six King Cove students enrolled in distance learning classes offered through UAA, and one student in 2006–2007 and one in 2007–2008 enrolled in limited-space classes in the Rural Alaska Honors Institute offered through the University of Alaska Fairbanks (UAF), and another two or three students will be enrolling in

distance classes offered by UAF in the summer of 2008. In the fall of the 2008–2009 academic year, distance learning advanced placement classes will also be available at the school as offered through the University of North Carolina. Future plans also call for the distance learning feed of advanced placement classes through the Anchorage school district. Further, the King Cove school during the 2008–2009 academic year will be the site of origin of distance learning classes that will be fed to AEB schools in Akutan, False Pass, and Cold Bay. According to school staff, of the seven high school students graduating in 2008, either three or four will be attending college in the fall, while the others are already gainfully employed in the community.

As with many other rural Alaska schools, the high school basketball program is followed closely by members of the community and having a strong program also serves as a "hook" to incentivize at least some students to remain in school to have playing opportunities. During the 2007–2008 school year, the King Cove boy's basketball team reached the state tournament for the first time in about a dozen years, eventually finishing third in the state in their category while, according to school staff, drawing between 400 and 500 fans between current and former community residents and friends while on the road. Interaction between the basketball team and the community occurs on the court with scrimmages between the T-Jacks boys high school team and the "Hometown Heroes," a team composed of alumni and others in the community and scrimmages between the Rookies girls high school team and the "Lady Legends," a team also composed of alumni and others in the community. These scrimmages occur once or twice every couple of weeks on Thursdays at the gymnasium in the old school building.

Despite the relatively large overall employment at the local seafood processor, according to school staff as of 2008 only one processing family had children (in this case three children) enrolled in the King Cove school for the entirety of the year. At different times during the year, however, a total of three or four children of processing workers were enrolled in the elementary grades and two children of processing workers were enrolled in the secondary grades, representing a total of three to four families with parents who worked as processors at the PPSF plant that had children in the local school. None of these students were classified as "limited English proficiency" students, although the children of at least one of these families were bilingual. Having children of processing workers attend school in King Cove is a relatively new phenomenon. According to interview data gathered in 2004, no children of processing employees attended the school. This was reportedly due to the high cost of living in the community, which made it impractical to bring a family to King Cove on typical processing wages other than for those in management positions, and even then some of these positions provided less than year-round jobs in the community. (Although summer managers have been reported to sometimes bring families in seasonally, this has had no impact on school attendance.) Housing was, and remains, in short supply in the community, especially during peak processing seasons. Overall, according to senior school staff, the social impact in King Cove of having people from a variety of cultures working at the PPSF plant is quite limited, given that interactions between PPSF workers and other community members are fairly limited, with a few exceptions, such as sometimes in Sunday morning church services and at adult recreation nights at the gymnasium at the old school.

In terms of overall cultural diversity, senior school staff characterize the school as currently (2008) being "fairly culturally sterile" with no obvious ties to Aleut culture, such as having artifacts in the school, having elders giving guest talks, or having Aleut language use being taught. According to school officials, however, there are plans to invite elders to the school in

the 2008–2009 school year, and expanding the use of some Aleut language terms that have already begun to be used in the school in limited instances.

According to school staff, one child of a King Cove family is currently attending the Mt. Edgecumbe school (in Sitka) as an alternative to high school in King Cove, and another student recently returned to high school in King Cove from that institution. Mt. Edgecumbe is discussed at times by parents and students in the region as being a place where students can have access to more academic resources than may be the case in smaller communities. There also has been movement of students between schools within the AEB, and reportedly this has happened on at least an occasion or two in the past to help schools achieve minimum attendance figures to avoid funding cuts or closure (in addition to other, more typical relocations related to parent's employment opportunities or extended family considerations). According to senior school staff, while approximately a half-dozen King Cove high school graduates are currently (2008) enrolled in college, it has been a number of years since any King Cove school alumni have graduated from college.

2.3.2.4 Housing Types and Population Segments

Group housing in the community is largely associated with the seafood processing workforce. As shown in Table 2.3-5, 42 percent of the population lived in group housing in 1990 and 38 percent of the population did so in 2000.

Table 2.3-5. 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. Census Bureau 1990, 2000.

Table 2.3-6 provides information on group housing and ethnicity for King Cove in 1990, and similar information for 2000 is presented in Table 2.3-7. As with Unalaska and Akutan (and Sand Point), group housing in the community is largely associated with the processing workforce. The distribution of ethnicity between housing types is striking. In 1990, the Alaska Natives/Native Americans comprised 67 percent of the non-group quarters population in the community, and the analogous figure for 2000 was 75 percent. For both 1990 and 2000, however, there was only one Alaska Native/Native American individual living in group quarters in the community (about one-half of 1 percent of the total group quarters population). Shifts in ethnic populations are also apparent between 1990 and 2000, with the "Asian" group comprising over 64 percent of the group quarters population in 2000, up substantially from 1990. The "White" component of the population was smaller in absolute and relative terms in 2000 than in 1990 for the community as a whole and in group quarters. Among non-group quarters residents, the number of "White" residents was larger in 2000 than in 1990 but still represented a smaller proportion of the non-group quarters population in 2000 than in 1990.

Table 2.3-6. 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 or African American	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. Census Bureau 1990.

Table 2.3-7. Ethnicity and Group Quarters Housing Information, King Cove, 2000

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	119	15.02%	37	12.37%	82	16.63%
Black or African American	13	1.64%	0	0%	0	0%
Alaska Native/Native American	370	46.72%	1	0.33%	369	74.85%
Native Hawaiian/Other Pacific Islander	1	0.13%	0	0%	0	0%
Asian	212	26.77%	192	64.21%	20	4.06%
Some Other Race	47	5.93%	0	0%	0	0%
Two Or More Races	30	3.79%	0	0%	0	0%
Unknown	0	0%	69	23.07%	22	4.46%
Total	792	100.00%	299	100.00%	493	100.00%
Hispanic*	59	74.49%	52	17.39%	7	1.42%
Total Minority Population	679	85.73%	268	89.63%	411	83.37%
Total Non-Minority Population (White Alone, Not Hispanic or Latino)	113	14.27%	31	10.37%	82	16.63%

* "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. Census Bureau 2000.

Table 2.3-8 displays basic information on community housing, households, families, and median household and family income for King Cove in 2000.

Table 2.3-8. Selected Household Information, King Cove, 2000

Community	Total Housing Units	Vacant Housing Units	Total House-holds	Average Persons Per House-hold	Median House-hold Income	Family House-holds	Average Family Size	Median Family Income
King Cove	207	37	170	2.9	$45,893	117	3.53	$47,188

Source: U.S. Census Bureau 2000.

2.3.3 Local Economy and Links to Commercial Fisheries

In terms of employment, a study conducted in the late 1990s related to proposed harbor improvements concluded that more than 80 percent of King Cove's workforce was 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 was either not counted as community residents under the study methodology or the study was conducted during an off-season time when most workers were not present in the community. Also, commercial fishermen are self-employed and 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 relatively low salmon prices (or price increases that reportedly did not pace increased costs, including fuel costs), the community has experienced adverse 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 restrictions, crew job loss with crab rationalization, 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 indirect source of fisheries income in the community in past years has been temporary 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 received compensation funds allocated by Congress. Those in the region affected by a crash in the opilio fisheries similarly received one-time relief funding. In the case of King Cove, these types of temporary funding in recent years have typically been used almost immediately in the form of relief credits for individual residents to offset utility bills and service fees, such as harbor moorage fees, as well as by the city government to offset operating deficits, such that these funds have not been utilized for capital construction of fisheries infrastructure in King Cove as occurred in some other regional communities.

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, in interviews conducted for pre-crab rationalization community characterization in 2001, one vessel captain 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 have 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 have also acted as designated hunters for others in the community to further reduce overall subsistence costs and increase productivity. During interviews in 2008, local hunters noted that caribou hunting in the area had been closed by the state due to herd population concerns, but that other hunting opportunities, such as moose that are typically found to the east around Pavlof Bay, and waterfowl, found throughout the area, remained robust, as well as subsistence fishing opportunities. Local subsistence fishing, like local subsistence hunting, is reportedly sometimes pursued as a joint production activity in addition to being an important stand-alone activity in its own right, such as when a vessel or gear that is used for commercial fishing is also used for subsistence fishing at a separate time, or where fish are retained for subsistence use out of what is otherwise a commercial harvest.

Table 2.3-9 provides summary information on employment, unemployment, and poverty levels in King Cove for 1990 and 2000. As shown, all indicators are higher in 2000 than they were in 1990.

Table 2.3-9. Employment and Poverty Information, King Cove, 1990 and 2000

Year	Total Persons Employed	Unemployed	Percent Unemployment	Percent Adults Not Working	Not Seeking Employment	Percent Poverty
1990	276	5	1.8%	24.0%	82	10.0%
2000	450	31	4.7%	31.50%	176	11.9%

Source: U.S. Census Bureau 1990, 2000.

2.3.3.1 Harvesting

Community Harvester Quantitative Description

An earlier North Pacific Research Board/North Pacific Fishery Management Council (NPRB/NPFMC) funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska* (EDAW 2005), included a quantitative characterization of the King Cove local commercial fishing harvest sector, including detailed information on an annual basis, from 1995 through 2002, of local vessel characteristics, distribution of permit holders, catch and earnings estimates, and landings inside and outside of the community, along with an analysis of the spatial distribution of fishing effort of the local fleet. As updating this information is effort intensive and not central to the current Bering Sea and Aleutian Islands (BSAI) crab rationalization 3-year review-oriented

community analysis, it has not been updated for this community profile. Rather, the more qualitatively oriented and BSAI crab rationalization focused discussion in the next section has been updated.

Communities also directly benefit from the harvest sector through participation of residents as crew members as well as through the engagement of vessel owners and permit holders. Beginning in 2000, the CFEC has produced estimates of crew members by community, based on the number of permit holders in the community, plus the community residents who have applied for a Crew Member License with the Alaska Department of Fish and Game (ADFG). Table 2.3-10 provides estimates of crew members for King Cove for the years 2000 through 2006. As shown, the total number of permit holders plus crew members is a substantial proportion of the community's population, indicative of the central place of fishing in the community and the fact that even individuals with steady employment in other economic sectors often take part in fishing at least on a part-time or episodic basis.

Table 2.3-10. Estimated Number of Permit Holders and Crew Members from King Cove 2000-2006

Year	Permit Holders	Crew Members	Total
2000	62	165	227
2001	CFEC did not develop this report for 2001		
2002	55	108	163
2003	54	110	164
2004	54	120	174
2005	57	73	130
2006	55	116	171

Source: CFEC permit holder and crew member counts by census area and city of residence report, accessed via www.cfec.state.ak.us/Mnu_Summary_Info.htm.

Community Harvester Characterization

King Cove, as already noted, has a sizable residential fleet. Local vessels deliver primarily to the King Cove PPSF 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, to a limited degree, in terms of direct fishery participation employment, although both have been affected to differing extents by the implementation of BSAI crab rationalization, as noted below.

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 and the harbormaster, there are currently (2008) three vessels owned by long-term community residents that are greater than 58 feet, and two of these have transitioned to local ownership since the implementation of BSAI crab rationalization.

According to interviews with local fishermen, *Northern Spirit* (at 95 feet) was the only locally owned vessel larger than 58 feet in King Cove immediately prior to crab rationalization. It is

also the single locally owned vessel that currently (2008) participates in and received an initial allocation of catcher vessel quota ("A" shares and "B" shares) for the fisheries involving rationalized species of BSAI crab, although its pattern of participation has changed since rationalization. While in at least some former years it participated in both the Bristol Bay red king crab and the opilio crab fisheries, in recent years it has not participated in the opilio fishery. Prior to crab rationalization, *Northern Spirit* was the locally owned vessel larger than the 58-foot-limit boats that trawls, and that remains the case at present (2008).

Also according to local interviews, *Denali* (at 82 feet) and *Gayla Maureen* (at 95 feet) are former BSAI crab vessels that were owned outside of the community prior to rationalization, but were both captained and primarily crewed as BSAI crab vessels by King Cove residents and operationally based in the community immediately prior to rationalization. Further, at least one local King Cove resident had a minority ownership interest in one of these vessels prior to rationalization. Since rationalization, both vessels left the rationalized BSAI crab fisheries, and both were purchased by their King Cove resident captains. Both vessels reportedly now tender out of King Cove and both continue to provide crew opportunities for local residents, but in fewer numbers (reportedly two rather than three or four positions each) and not in the Bering Sea crab fishery (in which crew positions have historically been more lucrative, on average, than have been crew positions on local tendering vessels). The current (post-rationalization) owners of both *Denali* and *Gayla Maureen* received at least some level of allocation of captain/crew shares ("C" shares) of BSAI crab under rationalization, but both are reported to be currently (2008) leasing out those shares (to Kodiak-based operations) rather than fishing them directly, apparently due, at least in part, to logistical challenges inherent in trying to directly fish and/or market relatively small blocks of quota. Besides these two individuals and the captain of *Northern Spirit*, who is the son of the owner of *Northern Spirit*, no other King Cove residents received initial allocations of "C" shares under the BSAI crab rationalization program.

Three other vessels with apparent local ownership ties to King Cove also show up in the BSAI crab fishery 1998–2008 dataset[28] utilized for the quantitative portion of this 3-year crab rationalization review, but none of these vessels qualified for initial allocations of quota under the rationalization program. One of these vessels, confirmed by interviews with local fishermen in 2008 to truly be owned by a local King Cove resident and still participating in a range of other fisheries, is shown in the data as only making Bristol Bay red king crab landings among the rationalized BSAI crab species, and then in only one of the years during the 1998–2008 period. Another of these vessels, also confirmed by interviews with local fishermen in 2008 to be truly owned by a local King Cove resident, is shown in the data as having participated in both the Bristol Bay red king crab and opilio crab BSAI fisheries for the years 1998 through 2001, but local fishermen report that this vessel was first sold to an individual from outside the community and then subsequently left the BSAI crab fisheries through the crab vessel buy-back program prior to the institution of the crab rationalization program. A third vessel is shown in the 1998–2008 dataset as being locally owned and participating in the Bristol Bay red king crab fishery from 1998 to 2000 and from 2002 to 2003, and in the opilio fishery from 1998 to 2003. This vessel, however, was identified by King Cove fishermen during 2008 interviews as a vessel that spent time in King Cove but that was never owned by a local King Cove resident (which points out that there are some inconsistencies in ownership location reporting in the existing data, but these are, nonetheless, the best available data), and the same vessel is shown in the BSAI crab

[28] Crab rationalization community analysis dataset, NPFMC, 2008.

fishery 1998–2008 dataset as having Seattle ownership and participating in BSAI crab fisheries in 2004 and 2005.

According to interviews with local fishermen (in both 2004 and 2008), in the years leading up to BSAI crab rationalization, two other BSAI crab vessels, *McKinley* and *Entrance Point*, spent a considerable amount of time in King Cove and had common ownership interests with the entity that owned majority interest in *Denali* and *Gayla Maureen*. While *McKinley* was reported by King Cove fishermen as captained and crewed by non-locals (apparently primarily from the Pacific Northwest), *Entrance Point* was captained by a Kodiak resident and regularly offered BSAI crab fishing crew opportunities to King Cove residents. Both *McKinley* and *Entrance Point* are reported as no longer participating in the rationalized BSAI crab fisheries. According to King Cove residents, both have changed ownership since rationalization and *McKinley* is currently (2008) pursuing East Coast fisheries, while *Entrance Point* is salmon tendering for its new owner outside of King Cove. According to local fishermen, prior to BSAI crab rationalization at least a couple of Sand Point-owned vessels also delivered crab to the King Cove PPSF plant.

It would appear that the drop-off in crab vessels owned or skippered by residents of King Cove has had the effect of limiting the access of potential crew members in King Cove to active boats, reducing opportunities for obtaining crew jobs. It is a truism within the fishery that crew is often hired through a social networking process with either (or both) the owner and the skipper. In this way, removal from the BSAI crab fishery of locally owned or skipper vessels (as well as vessels that spent a good deal of time in the community and that would hire local crew for at least some seasons) has served to limit the ease with which potential crew members could match up with a boat (and for whom recommendations based on extended personal knowledge could be given). As a non-CDQ community, King Cove residents do not have the built-in network for learning about and obtaining crew positions aboard CDQ group-owned vessels, such as that described for Akutan residents in that community profile. According to some King Cove fishermen, CDQs have made their position worse with respect to direct participation in the BSAI crab fisheries following crab rationalization, as the CDQs have gotten a larger portion of the overall quota (reducing the amount available to non-CDQ participants) and, due to this increase, are in a stronger economic position than non-CDQ boats to compete economically with non-CDQ boats in terms of direct harvest rather than leasing of quota (which, in turn, potentially impacts the number of overall crew jobs available). Further, it would appear that BSAI crab crew jobs are now less attractive for at least some King Cove residents than was the case prior to crab rationalization, due to the commitment required to fish longer seasons and the lower economic return per day spent away from the community, which limits the desirability of these jobs as part of an integrated, multiactivity strategy of piecing together a year-round living in the community through a variety of activities, including, but not limited to, participation in local fisheries.

A total of five vessels are currently (2008) reported by local fishermen and PPSF plant personnel as tendering for the PPSF plant in King Cove. These include three locally owned vessels, *Northern Spirit* and *Denali*, which tender salmon only, and *Gayla Maureen*, which tenders both salmon and cod. A fourth vessel, *Cape Denby*, tenders both salmon and cod, hires two local crew, and spends the year in King Cove, but its owners live in Southeast Alaska. The fifth vessel, *Island Trader*, also tenders both salmon and cod and typically hires two local crew members, but it is based out of Squaw Harbor near Sand Point. Its owners spend part of the year at the former PPSF site in Squaw Harbor and part of the year elsewhere in Alaska. Among these

tendering vessels, *Northern Spirit* also currently (2008) fishes the local pot cod fishery and *Denali* fishes the Dungeness crab fishery.

The next largest vessels owned by residents of King Cove community, according to fishermen interviews, are a group of 58-foot-limit seiners. These include *Just In Case, Aleut Mistress, Pacific Quest, Lady Lee Dawn,* and *Northern Dream.* All of these vessels typically fish salmon, trawl for cod, and pot for cod, except for *Northern Dream*, which does not trawl for cod. There are also reportedly three locally owned vessels in the approximately 53-foot range, *Northern Star* and *Desiree Dawn*, both of which typically seine for salmon and pot fish for cod, and *Aleut Sun*, which typically focuses on salmon seining. According to interview data, no other locally owned vessels exceed 50 feet in length.

In addition to the versatile local 50-foot or longer vessels, there are numerous smaller commercial vessels owned by community residents, including a number of seiners in the 42- to 44-foot range that participate in a range of fisheries, and an array of smaller vessels that have a particular focus on salmon, and drift or gill set 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 larger vessels. In recent years, local salmon fishing effort has continued to be constrained by Area M measures designed to lessen Yukon-Kuskokwim stock intercept potential by staggering openings, reducing quota, and providing smaller fishing windows than would otherwise be the case.

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 around the third week of January and lasting through the first week of March, although dates in a given year can be influenced by a number of factors, such as storms. Typically following a 1-week break, the vessels switch to cod pot fishing in state waters, which normally ends somewhere in mid- to late 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 few boats participating in the pot fishery, although 2007, with reportedly five local boats participating, was a relatively high participation season. In recent years local vessels have reportedly not participated in the October trawling season, apparently due to lack of promise of adequate returns and quick bycatch-related area closures. Currently (2008), local fishermen report that locally owned vessels are participating in the jig fishery, although there are still outside boats that work near the community, staying in the area after salmon season.

According to local fishermen, three local vessels did qualify to fish pollock; however, currently (2008) none are doing so. Seattle-owned *Hot Spur* fishes locally for pollock, however, and the vessel reported remains in King Cove year-round and also stores its gear in the community. *Alaska Lady*, formerly a locally owned vessel, stayed year-round in the community and fished pollock and cod, but reportedly had not done so in previous recent years. A third vessel, *Equinox*, another vessel owned by individuals outside of the community, also fishes pollock locally and leases a gear locker in the community year-round, but this vessel does not currently (2008) remain in the community year-round.

Also according to local fishermen, only one King Cove resident qualified for a substantial initial allocation of Individual Fishing Quota (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 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 IFQs, and those who did have subsequently sold their IFQs, such that no local residents are currently (2008) fishing sablefish.

With respect to crab, beyond the one locally owned relatively large vessel that fishes Bering Sea crab with a local crew (captain plus four crew for a total of five persons on board), three other local boats (58-footers) reportedly did qualify for the Pribilof crab fisheries, but although two current King Cove residents still hold shares in these fisheries, neither is active in these fisheries at present (2008). 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 several years prior to crab rationalization from the fall to the winter, a time of year much less favorable for fishing by small vessels, several King Cove boats in the 58-foot class were also reported to have fished in the Bering Sea crab fisheries, but did not do so after the change.

Prior to crab rationalization there was significant local direct crew participation in the Bering Sea crab fisheries on non-locally owned vessels in addition to previously noted *Denali*, *Gayla Maureen*, and *Entrance Point*. In addition to these three vessels, in 2004, prior to rationalization, local fishermen estimated that about a half-dozen to a dozen other King Cove residents crewed aboard outside BSAI crab boats in any given season in recent preceding years (but apparently no King Cove residents crewed on other outside vessels in other large vessel fisheries). As of 2008, local fishermen stated that only one King Cove resident was actively crewing on any BSAI crab boat[29] other than locally owned *Northern Spirit*. Further, as of 2008, no local residents were known to be crewing on outside boats in any other larger vessel fishery, with the exception of the previously mentioned two residents crewing on each of locally operating tenders *Cape Denby* and *Island Trader*. Other local residents do fish seasonally, typically with relatively small-scale operations, in the Bristol Bay commercial salmon fisheries.

Prior to rationalization, outside crab vessels and their crew opportunities became known to King Cove residents in a variety of ways. Many vessels spent at least some time in the community before and after crab seasons. According to interviews in 2004, an estimated 40 to 50 outside vessels were storing crab pots in the community (with a 2008 estimate by the owner of the local crab pot hauling business suggesting that at the peak of activity prior to rationalization, between 65 and 80 BSAI crab vessels per year were storing gear in the community). Other outside crab vessels became known to locals (and vice versa) when they acted as tenders during other fisheries. Individuals who crewed on these outside boats pre-rationalization included, among others, owners of King Cove local fleet vessels.

The City of King Cove sponsored a community development survey in 2006 (Cordova Consulting n.d.) that was designed in part to "gather information regarding the effects of the recently established crab rationalization rules." Two questions on the survey were specifically directed toward obtaining information on participation of household members in the Bristol Bay

[29] The *Tempo Sea*.

red king crab, Bering Sea opilio, and other Bering Sea or Aleutians crab fisheries in the season before and the season after rationalization was implemented, and a third question was directed toward whether there were differences in how members of the household were paid for crab fishing in the first year post-rationalization compared to other years. The information from this survey was then utilized in a post-rationalization study prepared by the Institute for Social and Economic Research (ISER), University of Alaska Anchorage, for the Aleutians East Borough (Knapp and Lowe 2007). As summarized in the latter study, the number of households reporting at least one member participating in the Bristol Bay red king crab fishery declined from 19 in the last year pre-rationalization to 6 in the first year post-rationalization, with analogous declines from 17 to 5 in the Bering Sea opilio fishery and from 27 to 19 in other Bering Sea or Aleutians crab fisheries (where the number of households responding was 136). The Knapp and Lowe study also utilized other methodological approaches to estimating crab rationalization-related King Cove job losses and provided an additional estimate,

> *… developed through key informant interviews, that 20 King Cove residents lost crab fishing jobs in the 2005-06 season as a result of rationalization. This estimate is based on a count of specific individuals who would probably have fished for BSAI crab in 2006 if the crab fisheries had not been rationalized, based on their past participation in these fisheries. This estimate does not distinguish between jobs lost in the Bristol Bay Red King Crab fishery and the Bering Sea Snow Crab fishery. Most of these individuals who lost jobs would probably have fished in both fisheries.*

The estimate provided in the ISER study is consistent with information developed in 2004 pre- and 2008 post-rationalization interviews for the current study effort. Essentially, while only one locally owned vessel fished crab in the BSAI fisheries immediately prior to rationalization, crewing on crab vessels pre-rationalization nonetheless represented a significant source of employment and income for King Cove residents in a way and to a degree not seen in post-rationalization crabbing. Additional local employment and income associated with activities related to crab from outside King Cove are outlined in the support services discussion below.

The crew makeup on local commercial fishing vessels reportedly varies widely by season. Among the 58-foot boats, four crew members are typically used in the winter and summer fisheries (skipper/owner plus three), with one exception where one local 58-footer uses a crew of three in the summer (skipper/owner plus two). While crew numbers tend to remain steady across seasons, crew composition reportedly does not. Winter fishing seasons typically involve what could be termed "professional" crew, while summer crew tends to comprise family members, including minors. This, apparently, is a viable strategy for at least two reasons. First, school-aged children are not available to crew on vessels during the school year. Second, economic returns have been low enough during a number of summer salmon seasons in recent years that it has been difficult at times to get nonfamily crew (and, of course, hiring family crew during tough times helps household economies). In interviews conducted in 2004, some community members volunteered the opinion that during a prolonged ebb in the local fisheries economy family members had bumped others from crew positions and that during the winter fisheries older crew had bumped younger ones as positions became tighter and/or relatively more valuable. Others volunteered that younger crew in general were being used more 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), more young women were involved in particular, and more children were fishing than

ever before. Systematic follow-up information has not been collected to verify or elaborate on these earlier reported trends, but the general differences between winter and summer crews were again noted in 2008 interviews.

According to 2001 and 2004 interviews, and confirmed in 2008 interviews, King Cove and Sand Point vessels have reportedly competed for some of the same fishing grounds in recent years, particularly during cod trawling near Sanak Island (which is roughly 50 miles south-southwest of King Cove and roughly 100 miles southwest of Sand Point, as the crow flies). Steller sea lion protection measures near Sand Point have reportedly had the effect of shifting local fleet effort into areas farther to the southwest, including areas earlier targeted primarily by the King Cove fleet, and more heavily concentrating effort than was the case in the past. The areas to the east as well as north of Sanak Island see 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). In 2008 King Cove interviews, additional overlap between the fishing grounds utilized by King Cove and Sand Point residents was noted in the salmon fishery, as reportedly Sand Point set netters have been more frequently encountered by King Cove fishermen in the Pavlof Bay area on the south side of the Alaska Peninsula, where King Cove fishermen have reportedly often worked the east side of the bay near Cape Tolstoi (which is roughly 30 miles to the east of King Cove [past Belkofski Bay, Volcano Bay, and Long Beach] and roughly 40 miles to the west of Sand Point).

Local vessels deliver primarily or exclusively to the processor in King Cove, with few exceptions. 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 PPSF shoreplant. One fisherman noted that by not making sure that the cash buyers had a sufficient volume of salmon, the fishermen themselves cut out other potentially competitive outlets for selling their catch. Another locally active, knowledgeable fisherman, however, attributed the local decline of cash buyers to larger fishery economic dynamics. According to this individual, in the 1980s the local chum fishery was at a peak at the same time that Arctic-Yukon-Kuskokwim (AYK) fisheries, which include relatively modest commercial fisheries but large subsistence fisheries, were in serious decline, such that significant Area M restrictions were placed on local salmon fisheries, altering the economics of King Cove area salmon fisheries, a situation that continues to present (2008). These changes apparently made the economic returns for cash buyers substantially less than was previously the case. Additionally, although conditions have improved since the first implementation of Area M restrictions, apparently the overall market has not rebounded to the point where cash buying is lucrative enough to entice a significant number of operations back to the region.

The fact that King Cove fishermen basically have a single outlet for local fish 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 PPSF 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 previous years, local vessel owners 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 commingling 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.

At least a few local King Cove salmon fishermen do, however, currently (2008) deliver salmon to a co-op rather than to the PPSF plant. This co-op, according to a knowledgeable King Cove resident, has about 30 to 35 fisherman members, of whom about 4 are from King Cove and 2 from Sand Point (and at least 1 from elsewhere in Alaska), with the balance (estimated to be around 75 percent of the membership) being from the Lower 48, particularly from the Gig Harbor, Anacortes, and Puyallup Harbor areas of Washington state, the area from where the co-op is managed. This co-op charters a salmon catcher/processor to take direct deliveries from catcher vessels on the fishing grounds themselves, eliminating the expenses of runs to the plant, decreasing the number of times fish are handled by avoiding tendering, and decreasing the total time between harvesting and processing of product. This allows the co-op to pay a premium for fish, reported to have been in the neighborhood of 5 to 10 cents per pound above PPSF King Cove prices in recent seasons. The number of King Cove residents in the co-op is relatively limited, however, reportedly because a fisherman has to be a gillnetter to join the co-op and must have refrigerated sea water capability on board (which only a few gillnetters in King Cove have) to meet quality control and handling standards. The co-op is set up as a cost-sharing and profit-sharing organization, such that members receive payments throughout the year and costs and profits are trued-up, rather than as a single payment as those who deliver to traditional processors receive.

According to one of the active local co-op participants, beyond PPSF and the co-op, there are no other options for King Cove fishermen to deliver salmon in volume. The Aleutian Pribilof Islands Community Development Association (APICDA) has in the past sent out tenders from their False Pass plant, but that plant has not been open in recent years (although a new plant in that community is due to open this summer [2008]). Regionally based Aleutia[30] (for whom PPSF does custom packing) represents a potential additional market as well, but takes a relatively small volume of hand-picked, high-end fish on slush ice, mostly from Sand Point vessels.

[30] Described in the Sand Point section of another set of recently produced community profiles (EDAW 2008).

Most vessels delivering to PPSF 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. In 2008, salmon strikes reportedly had not been seen in several years, despite not being uncommon in the more distant past. (With what are perceived as chronically depressed salmon prices in general, local fishermen have noted with some irony that disaster relief funding was quickly made available to opilio fishermen following a couple of very bad years.)

Boats that deliver BSAI pollock in King Cove are all nonlocal, 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 (*Northern Spirit*), BSAI crab boats that deliver to the local plant are from outside the community, typically from Kodiak or the Pacific Northwest. Some of the Pacific Northwest crab boats are moored in King Cove or other Alaskan ports, and King Cove continues to seek to attract these vessels to moor in the community. King Cove completed a major phase of the expansion of its large boat harbor in 2002 and has subsequently (2007) made power available, but as of 2008 was still in the process of making fresh water available in that portion of the harbor.

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 for the era immediately prior to BSAI crab rationalization, combining the data from the two communities resolves this problem, and the two fleets do share many characteristics. As reported in a previous study (EDAW 2005), for the period 1991 through 2000, 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 PPSF 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 PPSF. For the 1991 through 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 were multifishery/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 contributed 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, even prior to rationalization, and most if not all of the then more-recent entrants were over 58 feet in length. No similar data can be discussed for the post-crab rationalization period as there are too few vessels in either King Cove or Sand Point, or the two communities combined, to allow a separate discussion due to confidentiality restrictions.

2.3.3.2 Processing

Community Processor Quantitative Description

An earlier NPRB/NPFMC funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska* (EDAW 2005), included a quantitative characterization of local community commercial processing sectors, including detailed information on an annual basis, from 1995 through 2002, of the number of active processors, species processed, pounds purchased, ex-vessel values, wholesale values by species, processing value added, and relative dependency by species. As updating this information is effort intensive and not central to the current BSAI crab rationalization 3-year review-oriented community analysis, it has not been updated for this community profile. Further, in the case of King Cove, no quantitative information can be released due to confidentiality restrictions based on the limited number of sector participants. Rather, the more qualitatively oriented and BSAI crab rationalization focused discussion in the next section has been updated.

Community Processor Characterization

The PPSF King Cove shore 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," although specific product form varies in importance from year to year with changes in markets, such that in addition to canned salmon, the facility produces a variety of fresh and frozen salmon products. Though historically a salmon plant, the PPSF King Cove plant over the years added crab as a strong secondary species, followed by halibut, and then cod and pollock. PPSF representatives report that they have designed their local processing operations primarily around serving the smaller range of the catcher vessel fleet, and the fishery around the Pribilof Islands (Schwarzmiller and Sterling, personal communication, 2002).

Today (2008), in addition to salmon, the King Cove plant also processes a significant volume of both opilio and red king crab. It also has developed significant groundfish processing capability, with Pacific cod and pollock as the predominant groundfish species. Substantial amounts of cod are supplied from both the Gulf of Alaska and the BSAI regions. Pollock is also taken from both BSAI and Gulf of Alaska fisheries and a range of product forms are produced, including block as well as surimi, mince, and shatter pack fillets. The PPSF plant also still processes halibut on a regular basis, and herring and other species less often, but the relative importance of halibut is reportedly somewhat less than in the past, as halibut has been cited as an example of the dislocations that can result from a rationalization program. PPSF was only one of several regional processors that report that the institution of halibut IFQs reduced their profit margin on halibut to such a degree that processing volumes were substantially reduced, and this was a stated condition for King Cove in particular.

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 fluctuated in response to both stock changes and management changes, with an example of the latter being implementation of the American Fisheries Act (AFA) and the BSAI crab rationalization. Detailed production figures, however, cannot be disclosed because of confidentiality restrictions. In general, however, it can be stated that King Cove is somewhat

unique among the four key regional groundfish ports of Unalaska, Akutan, King Cove, and Sand Point as it has a relatively higher dependency on Pacific cod among the various species of groundfish landed than is seen at the other plants, and a relatively equal balance between Pacific cod and pollock, but the relative dependence of the plants on different groundfish species has varied over time and with stock fluctuations. In King Cove, 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. In 2008, local plant personnel estimated that around 20 percent of the cod delivered to the plant comes from Lower 48 boats, with the remaining 80 percent coming from King Cove and Sand Point vessels.

The current (as of 2008) annual cycle of the plant is relatively consistent with a pattern that that has been in place for several years. The year 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 has changed in recent years, but the first opilio deliveries still occur in mid-January. The preseason crab-related activities that used to occur in King Cove in earlier January prior to BSAI crab rationalization (in 2005), however, do not occur at the levels seen prior to rationalization, as crab efforts in general have slowed in pace. Also, the seasons have been extended since rationalization was implemented and vessels have been coordinating with the processor by means of fishing plans to optimize efficiency and economic returns. In the years immediately prior to rationalization, crab vessels often made only one or two total deliveries in King Cove, while if the fishing was "scratchy" the season would extend to 3 weeks or so. In 2008, however, the bulk of opilio deliveries was not finished until the end of March. Following opilio crab activity, crab crews and vessels still 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 schedules deliveries of Bering Sea pollock after the Gulf fisheries can be prosecuted, 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 comparatively 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 fishing is slow, may last until the first week of May.

There are reportedly few halibut IFQ landings (or sablefish IFQ landings either) apparently due to lack of ability to pay the prices given at ports that are more accessible to the road system and have 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 June 7 opening of salmon season and the June 10 opening of Bering Sea AFA inshore pollock B season. July is relatively slow for salmon, except in years of large abundance of Bristol Bay salmon. In those situations, Bristol Bay salmon is canned in King Cove. August typically picks up again with the pink salmon runs,

and August 20 is also the time of C season pollock opening 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 midsummer. If local runs are particularly weak, which happens infrequently, PPSF may tender pink salmon out of Kodiak and other areas, balancing operations and adjusting supply to capacity in King Cove and Valdez. In some years, there has been limited local activity related to the Dutch Harbor July 15 herring food/bait opening, but this is dependent on the plant's bait needs.

On September 1, the last 40 percent of cod is released, but there has been little activity in King Cove related to this opener as fishing has not been especially productive recently. Crab activity resumes with preparation for the October 15 Bristol Bay red king crab opening, but, like opilio seasons, the level of local activity in the days leading up to this opening has fallen off dramatically since the implementation of BSAI crab rationalization. Immediately prior to rationalization, Bristol Bay red king crab season had become a one-delivery fishing season for King Cove, with the season lasting from 3 to 5 days. In 2007, most of the Bristol Bay red king crab was completed over the course of a month. IFQ activity lasts through mid-November, and then from mid-November to January 1, activity at the plant is confined to maintenance operations.

Employment levels at the plant vary considerably by season, but the overall cycle has remained relatively stable for a number of years. According to detailed information obtained from the plant in the course of a previous study, over the 5-year period from 1998 through 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 year-end 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. According to an interview with senior plant management, this pattern has remained consistent through 2008.

With the slowing down and spreading out of crab seasons since BSAI crab rationalization, the number of workers present on-site has not change appreciably, but the number of workers dedicated to crab at any one time has. For example, where opilio may have been run 24 hours per day during race-for-fish conditions, in more recent years there may be one shift running crab rather than two during the local opilio processing window. As the PPSF plant is a multispecies, multiproduct form operation, the plant has the ability to adjust product forms for different species, which vary in their labor intensity to produce, during busy times in other fisheries. 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.

PPSF owns most of the land in and around its immediate complex in King Cove, and housing is provided for workers on-site. PPSF also leases space in the Fleets Inn, a hotel operated by the King Cove Corporation (KCC), the King Cove village Alaska Native Claims Settlement Act (ANCSA) Native Corporation, within easy walking distance of the PPSF facility. The vast

majority of workers at the plant are transient with respect to establishing a long-term residence in King Cove, but according to senior plant staff several 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 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. The King Cove plant is relatively well located to process BSAI pollock and Gulf of Alaska pollock. Pollock product mix varies somewhat from other AFA plants, with surimi being a comparatively recent addition. Product mix at any particular time depends on market conditions, or, to a lesser degree competing labor needs at the plant, such that surimi may be a product of first choice or it may be run to maximize utilization of pollock that would otherwise produce less than optimum fillets.

According to interview information developed before crab rationalization was in place, crab deliveries and processing in King Cove were reduced in some of the years leading up to rationalization, due primarily to a reduction in quotas related to reduced stocks. AFA sideboard caps on BSAI crab also limited the amount of such crab that could be processed by the King Cove plant. This 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 have essentially been limited to the amount processed in previous years (as adjusted for other allocations). PPSF representatives reported that this, in fact, represented a production level lower than in previous years and would have required that they limit the number of boats from which they bought crab. To service these boats and maintain market share, PPSF took the step of chartering *Steller Sea* as a crab processor. Given the then-present low crab stocks and associated low Guideline Harvest Levels, PPSF representatives reported that they could physically process all the crab their associated fleet harvested in the King Cove shoreplant, but that this would not have been equitable to

the Pribilofs (and may not have been possible under the AFA crab caps). Certainly the use of *Steller Sea* in the Pribilofs helped maintain/increase PPSF's market share in the crab fisheries in that area. With the implementation of BSAI crab rationalization, however, AFA crab sideboard caps are no longer an issue for King Cove plant production.

According to interviews conducted at the time, prior to crab rationalization some of the crab boats delivering to the PPSF processing plant would participate in other fisheries (fishing for cod and halibut, tendering for salmon and herring), although most would fish only crab for PPSF and tender in other fisheries as their primary revenue sources. In interviews conducted in the years immediately prior to crab rationalization, PPSF representatives estimated that about 30 crab boats had delivered to them in the previous few years, but earlier years reportedly saw more crabbers delivering to the community. Also in the years immediately prior to rationalization, most, if not all, BSAI crab fisheries had effectively become "one or two trip" fisheries from the King Cove perspective. Immediately prior to rationalization, the PPSF crab fleet was composed mostly of independent catcher vessels, with a mixture of sizes and with owners from a variety of communities. Crab boats local to either King Cove or Sand Point tended to cluster at the lower end of the size range of this fleet, whereas Kodiak and Pacific Northwest crab boats were larger. Prior to BSAI crab rationalization, the King Cove plant did take deliveries from vessels fishing in what is now the North Region rationalization area, but, according to plant management, for vessels to make that long of a run for in-season deliveries, the processor needed to provide incentives for them to do so (as opposed to last load of the season deliveries, which were logistically easier for vessels headed home from the fishing grounds). Since rationalization, only one locally (King Cove) owned vessel participates in the rationalized BSAI crab fisheries and this vessel tenders salmon as well, as discussed elsewhere. According to PPSF management, in the 2007 Bristol Bay red king crab season about 15 vessels delivered crab to the King Cove plant, while in the 2008 opilio season, about 20 vessels delivered crab to the plant.

According to local plant management, in the years leading up to crab rationalization *Steller Sea* typically came to the King Cove area to "help clean up" at the end of crab season. When *Steller Sea* processed locally, it sometimes did so outside of the city limits of King Cove. By processing outside the city limits, revenues from local fish taxes did not accrue to the City of King Cove but fish taxes are still paid to the AEB (and, of course, the State of Alaska). According to plant personnel, this was important to stay competitive in price with Unalaska/Dutch Harbor (which had only a local 2 percent fish tax and no borough tax), and Kodiak (which had no local fish tax [although the local 1.5 percent severance tax was essentially a functional equivalent]), as fish taxes show up as deductions from the price paid to fishermen. Processing location, however, also depended on weather and logistics, which according to plant management meant that some processing did take place within the city limits. With rationalization, however, the shore plant in King Cove has been able to process all of the crab delivered locally. According to PPSF management, in 2006 and 2007, the King Cove shore plant ran all of PPSF's Bristol Bay red king crab. In 2007, *Steller Sea* custom processed all of PPSF's northern shares of opilio, while in 2008 the Trident St. Paul plant custom processed PPSF's northern shares of opilio.

While other 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, *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.

PPSF also has a presence in several other locations within the AEB, including Sand Point, False Pass, and Port Moller. PPSF 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 crew settlements, stock room services, pot storage, and tendering, with fish purchased in Sand Point tendered to the PPSF plant in King Cove. The PPSF facility in Sand Point is described in detail in a set of earlier produced community profiles (EDAW 2008).

PPSF also provides fuel sales at a former site of a shore plant in the community of False Pass on Unimak Island, about 50 miles west of King Cove. This fuel facility employs one local False Pass resident and, according to the Alaska Department of Community and Regional Affairs community database,[31] has a tank storage capacity of 321,700 gallons. There is, however, no longer a PPSF support station in False Pass similar to the one in Sand Point, as was the case a number of years ago, nor is there any longer a full shoreplant facility in the community, such as the one that operated in False Pass from 1917 until 1981, when it was destroyed by fire and not rebuilt. According to PPSF management, as of 2008 fuel sales at the False Pass facility have not changed substantially since the implementation of crab rationalization, although according to City of False Pass leadership local fish tax revenues are down due to floating crab processors no longer operating in the community since rationalization. Also, according to Isanotski Corporation (the local False Pass ANCSA Alaska Native corporation) leadership, crab gear storage rental in False Pass is down significantly since the crab rationalization when into effect (as described in Section 1.3.9).

PPSF has another facility at Port Moller, about 100 miles northeast of King Cove and about 50 miles north of Sand Point, on the north side of the Alaska Peninsula. This plant processes salmon and only operates seasonally (May through September). According to the PPSF website,[32] during peak production there is a crew of 140 on-site and the site is self-sufficient, providing for all housing, food, electricity, water, and other supplies needed by the operation. Unlike False Pass, and the other communities described in this document, Port Moller does not have year-round population.

2.3.3.3 Support Services

When viewed from one perspective, King Cove has little in the way of a fisheries support service sector, and in this manner 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 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).

[31] http://www.dced.state.ak.us/dca/commdb/CF_BLOCK.cfm, accessed 6/5/08.
[32] http://www.ppsf.com/facilities/index.aspx, accessed 6/5/08.

Direct fishery support services that do exist in King Cove include shipping, air transportation, marine transportation, and taxi services; marine and other fuel sales; gear hauling and storage (including crab pot hauling and crab pot storage) and vessel watch services; marine mechanical and specialty supply services; welding services; vessel supply services and local stores; diving and vessel charter services; bar and restaurant services; lodging services; and range of services provided by the KCC. Additionally, two locally based tribal entities, the Agdaagux Tribe and the Belkofski Tribe, provide a range of services to the community, with the former being directly involved in a range of substantial infrastructure projects. There is also some other limited private sector business activities that are more indirectly related to fishing support in the community, and there are a number of public service sectors that derive a portion of their service population and demand from fisheries-related activities including recreation, clinic, and public safety services. Each of these local support sector components is discussed in this section.

In terms of a general characterization of crab rationalization impacts on local businesses, an earlier study (Knapp and Lowe 2007) examined confidential sales tax data for eight King Cove businesses and compared information from the second and third quarters of the 2 years prior to rationalization and the first 2 years post-rationalization. As a group, combined sales increased about 6 percent. Five of the eight businesses saw an increase in sales; one experienced a decrease of less than 10 percent, and two experienced a decrease of more than 10 percent. This study concluded that it was difficult to see any clear negative effect of crab rationalization on the sales of King Cove businesses "with the clear exception of one company which is very dependent on the crab fishery and which experienced a dramatic reduction in sales" (Knapp and Lowe 2007:76).

Shipping, Air Transportation, Marine Transportation, and Taxi Services

The level and type of transportation services provided to the community are directly related to fisheries demand. Barge service is provided to the community by Coastal Transportation on a weekly basis out of Seattle throughout the year, except during the especially slow period when the local processor is essentially shut down during last half of November and all of December, at which time the barge only comes approximately once every 2 weeks. Additional barge service is provided to the community by Sampson Tug approximately twice per month during most of the year, and more frequently during the summer months.

Air service to the community has become more problematic in recent years since regular jet service by Alaska Airlines was discontinued between Anchorage and Cold Bay. Since that time, relatively small turboprop aircraft operated by PenAir have provided the scheduled passenger service between Anchorage to Cold Bay, and yet smaller prop aircraft have typically been used on the scheduled passenger service between Cold Bay and King Cove. This has resulted in local residents having a more difficult time getting seats in and out of King Cove during peak times when sport hunters and fishermen are coming into the area (primarily around Cold Bay, the first major bay to the west of King Cove along the Alaska Peninsula, which is the site of the community of the same name) as well as during peak fishing and processing times, especially if weather complicates the schedule, although community leadership reports that in recent years PPSF has been chartering more flights during busy processor movement periods to help ease the flow. Most recently, the hovercraft link between Cold Bay and King Cove (described in the local governance and revenues section, below) has also been used to transport processing workers and others during peak movement periods, again helping, to a degree, relieve air

passenger congesting difficulties. Further, the situation on the flights on the critical Anchorage–Cold Bay segment has reportedly improved since PenAir is now (2008) routinely using Saab 340 aircraft rather than Metros for this run. Despite these efforts, however, freight and baggage are being reported by community leadership as being more commonly bumped in favor of passengers than was the case in the past, and getting airline seats into and out of the community on a consistent basis still remains problematic during some stretches of the year. The King Cove airport is located approximately 4.5 miles from the downtown area of the community. PenAir does have a shuttle van that it uses primarily for freight hauling, but residents generally get rides to and from the airport with friends or family or from the local taxi service. PPSF also has a van that it uses for airport cargo and passenger (employee) transportation.

Photo by Della Trumble

Hovercraft arriving in King Cove

While the local economy is, in part, constrained by relative isolation on the transportation system, during fieldwork in 2004 a number of individuals in the community ventured the opinion that a then-planned combination road/hovercraft transportation project that would link King Cove to Cold Bay offered hope of new economic opportunities. As of 2008, the road/hovercraft link was operational, but no longer operating on a scheduled basis, as discussed in the local governance and revenues section below.

Passenger and vehicle ferry service is also available, although only seasonally, in King Cove. Alaska state ferry *M/V Tustumena*, a part of the Alaska Marine Highway System, calls on the community from May through September each year, although service was being reduced from twice per month in 2007 to once per month in 2008. Additionally, hovercraft service links King Cove to Cold Bay as described in the local governance and revenues section, below.

Taxi services are another type of business that derives benefit from local fisheries activity. There is currently (2008) only one active taxi service, My Cab, in King Cove, operated by a husband and wife couple. At the time of pre-crab rationalization fieldwork (October 2004), there were reportedly at least a couple of other individuals in the community who have had taxi licenses and ran their services during the higher-demand periods associated with seasonal fishing activities, but they were not active at that time. Started in 2003, My Cab is reported at present serving mostly local residents, but one of the owners reported that prior to BSAI crab rationalization, when the crab fleet was in the community was one of the busiest times of the year for the business, when fishermen would frequently hire a cab to go to the store or to the bar. Now (2008), one of the owners reports that business is much more evenly distributed throughout the year and characterized the situation by saying "there are no busy times, only slow times," with those slow times described as occurring during April and May and then again during the latter part of November and all of December. The rest of the year was characterized as "pretty steady" for the cab business. While more boats are being moored in the harbor now (2008) than since the first years immediately after the implementation of BSAI crab rationalization (see the harbor discussion below under local governance and revenues), according to one of the operators of the cab company, this has not translated into more business for the cab company, as crews are now characterized as spending less money in town as they tend to leave the community immediately after mooring, at times on the same day they arrive.

Beside fishermen, one of the owners of My Cab reported that some fishing industry-related taxi service demand comes from processing workers at the PPSF plant, but only perhaps one trip per month when the weather is bad, typically for trips to the Alaska Commercial Company store or the bar. There is reportedly no activity related to tourism or sport hunting and fishing by outsiders in the community (in contrast to nearby Cold Bay), with the exception of one local fisherman, now retired, who does take bear hunters out to remote hunting locations during spring and fall bear seasons that each occur every other year. Typically evenings, when people are attending bingo on Wednesday and Sundays, and patronizing the bars on all days of the week, result in more taxi demand than other times of the day. According to one of the owners, it would not be possible to make a living off of the taxi business on the volume of business that is generated in the daytime alone. The bar-related business means that the taxis run late, getting the bartenders to their homes around 3:30 a.m. and getting themselves home by 4:00 a.m. or so. The couple that runs My Cab, like the owners/operators of a number of other businesses in King Cove, pursue a diversified income strategy, which in this case has recently involved having the husband seasonally run a salmon tendering vessel, during which time the wife focuses more on running the taxi business. Due to fuel expenses, cab rates increased in 2008 from the $5 in-town flat rate and the $15 town-to-airport flat rate that had been steady for quite a number of years. At present (2008), in-town rates are a flat $7, while fare to the airport is $17 one-way for a single and $12 one-way per person for groups. A flat $30 per head, one-way, is charged for taxi service to the hovercraft landing.

Marine and Other Fuel Sales

Marine fuel services in the community are currently (2008) provided exclusively by PPSF. PPSF is also the only supplier for everyday vehicle fuel needs in the community. The City of King Cove in recent years built a fuel tank farm on city-owned uplands near the harbor, but at present (2008) this is being utilized for nonmarine applications only (such as fuel for the local conventional power plant, the AEB-operated hovercraft that links King Cove to Cold Bay, and sales to the local fuel truck distribution enterprise that supplies the home heating fuel market). While the city has installed and previously operated a pipeline connecting this tank farm with the city's steel dock in the harbor in order to provide fuel sales to vessels, as of 2008 no marine fuel sales had taken place for several years after it became apparent that marine fuel demand could quickly exceed existing tank farm storage capacity, leaving too little fuel available for other critical local demands. This pipeline and capability will likely be reactivated in the future, but only after an expansion of the tank farm. (Initially it was contemplated that the city's marine fuel sales venture would also involve the KCC, but according to KCC leadership this was not adequately cost-effective from its perspective, so it is not involved in the activity. Further, in the initial phases of planning it was anticipated that the city would partner with industry to operate the tank farm and distribution system but, as implemented, the city is directly operating the facility.)

There is also a one-person private fuel delivery service business, Newman Oil Sales, that has been operating for several years in the community (spanning the pre- and post-crab rationalization eras) that supplies residences and other buildings by truck. This service purchases the fuel locally (from both the city tank farm and PPSF) 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.

Gear Hauling, Storage, and Vessel Watch Services

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, about 500 pots per day can be handled by a single operator. Prior to crab rationalization, this business did experience a temporary decline when pot storage opportunities opened up in False Pass and St. Paul, but according to the owner in 2004 (before crab rationalization was implemented) business had rebuilt to the levels seen before storage started in False Pass and St. Paul for a number of reasons, including King Cove being more convenient to the fleet than St. Paul due to occasional inability to access stored gear there in some weather/ice/sea conditions.

According to information collected in 2004 from the owner of Mack Trucking, prior to crab rationalization about 10,000 crab/cod pots in the community were moved and stored over the course of a year, with some pots being used for multiple seasons. When pots were going out at the start of a crab season the load could typically be handled by one employee, as vessel crews would be working on the pots as they arrived at the dock and so there was a limitation on how fast they could be loaded on board (but sometimes up to 1,100 pots per day were handled in the last 3 or so days immediately preceding season openers, which required supplemental help from one or two persons). At the end of the season, however, several extra drivers were needed to handle the flow from vessels going into storage all at once. As of 2008 (post-rationalization), this business had a single employee (the owner) and the number of crab pots moved per season had dropped substantially, with an estimated 3,500 crab/cod pots moved over the course of a year, some multiple times. According to the owner, for the most recent (2007–2008) Bristol Bay red king crab season, about 1,800 pots were moved before the season and about 1,000 were moved after the season (with about 800 pots remaining out of storage in King Cove for subsequent use during the opilio season) and for the most recent (2007–2008) opilio season another 1,800 pots were moved from storage, with a total of between 2,500 and 3,000 being moved back into storage following the close of the opilio season. Pots are also hauled for cod fishing seasons 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 and has been relative constant in recent years.

In addition to pot hauling, Mack Trucking also has hauled seine gear in the past, but as of 2008 this service is primarily handled by the City of King Cove. Mack Trucking also provides truck and skiff rental services, as well as boat watching services, as described below. Bush Truck and Equipment Rentals, operated by another local resident who is otherwise employed in the community, also rents out trucks, but the owner reports doing so as "more of a hobby" and to help people out rather than a separate business venture.

There is also some local employment related to vessel watch services for commercial fishing vessels. 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 $35 per day range as of 2008 (and unchanged since at least 2004). The large majority of this work in King Cove in 2008 is done by the owner of Mack Trucking (although there are at least two other individuals who derive at least a minimal amount of income from this work). While there was a drop-off in this business immediately following crab rationalization, consolidation of the crab fleet, and a drop in local crab vessel mooring, in subsequent years, according to the owner of Mack Trucking, the business has built back up to and surpassed previous levels with a local increase trawler mooring (essentially paralleling the drop and recovery of harbor revenues described in the local governance and revenues section below [Section 2.3.4]). Overall, the owner of Mack Trucking reported that as of 2008, while crab pot hauling revenue was down, this was offset by increases in boat watching revenues as well as increases in return on his local fishing efforts. Annual revenues in all of these activities, however, are subject to fluctuation due to a wide range of variables, such as ice conditions, fuel costs, quota, fish price, and weather.

Pot storage is another fishery support service offered in King Cove. Crab and cod pots are stored on lands owned by the KCC, PPSF, and City of King Cove. The KCC pot storage area is across the road from the harbor, between MC's bar and the AC store, and in the area of the gravel pit. According to the owner of the local pot hauling business, the active pots stored on this land are typically owned by local residents (who are also shareholders of the KCC) and are most often moved by those local vessel owners rather than by the pot hauling business. According to KCC leadership, the KCC is not currently (2008) charging for pot storage on its lands and has not for at least 2 fiscal years. PPSF provides pot storage space as a service to vessels that deliver to the plant and does not charge the vessels for this service. The City of King Cove has a modest pot storage area on the beach between the Travel Lift and the T-dock, and specifically uses pot storage as a directed revenue source, along with pot transfers across its docks (which includes all pots being loaded and unloaded in the community, regardless of where they are stored) as described in the local governance and revenues section below. Most of the city land on the immediate beach area in the harbor, however, is used for boat storage as opposed to pot storage. As free pot storage is available to vessels delivering to PPSF, and otherwise, at least for the time being, to local residents on KCC lands, typically the only vessels that store pots on city lands are vessels from outside the community that do not deliver locally but that, rather, use the city's harbor facilities as a staging area for more distant fisheries.

Marine Mechanical and Specialty Supply Services

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. This individual, who first came to King Cove to work in 1968, is a generalist, and in addition to handling mechanical repairs, he also does some hydraulic work (as do PPSF engineers/mechanics) as well as some electrical work. PPSF typically has one electrician on-site, but outside of these individuals, there are no vessel systems support personnel in King Cove. Some specialty personnel, such as radar technicians, do come through the community, but reportedly on a very infrequent basis.

Housing for the J&L Marine Repair mechanic is supplied through PPSF and is retained by this individual on a year-round basis, even through he is not continuously in the community.

Currently (2008), this individual, whose home is in Anchorage, is in King Cove approximately 5 months annually, with the balance of the year spent working in other coastal Alaska (or even sometimes Pacific Northwest) fishing communities (when not at home). This individual does not have a shop or other permanent dedicated workspace in King Cove, as most work is done aboard the vessels themselves, with tools stored at PPSF. Further, this individual reports that he essentially has the full use of all PPSF facilities whenever needed. According to this business owner, BSAI crab rationalization has had a direct impact on his business due to the consolidation of the fleet. Crab vessels were reportedly easier to work on (as they tended to be more roomy in the spaces where this individual worked) and tended to have more favorable business attitudes and practices, such as not being as concerned about costs and more prompt to pay, on average, than the average vessels in other fishery fleets. Since BSAI crab rationalization, while there has been no shortage of work for the business (due to a regional shortage of qualified marine mechanical, hydraulic, and electrical personnel), according to the business owner it has to accept more work (such as a larger number of smaller jobs) to make up, at least in part, for the loss of revenue that accompanied the consolidation of the crab fleet and the end of race-for-fish conditions.

A related fishery support business in the community is marine filter sales, a business that is a sort of partnership between the J&L Marine Repair mechanic and another business person in the community. While this was originally part of the mechanic's business *per se*, it became too large 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 (2008), the business does not have a permanent building but has had plans in the works for several years to build 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) as well as provide tool storage and workspace out of the weather. In 2004, prior to crab rationalization, the managing partner of the filter business estimated that crab vessels account for about 75 percent of filter sales, while the remaining 25 percent goes to the local fleet. Whereas crab vessels tended to order filters in case lots (for their main and auxiliary engines and generators), local small vessel owners tended to pick up individual filters from stock on hand. In 2008 this same owner reported that sales indeed initially declined precipitously due crab rationalization and its associated fleet consolidation and, while it has built back to a level an estimated 25 to 30 percent below annual averages pre-rationalization, it has not yet fully recovered. While the number of vessels spending time in the community has increased again since a low during the first year of rationalization (reportedly due to comparatively affordable mooring rates in King Cove and the high cost of fuel for vessels to run back to Pacific Northwest home ports between seasons), with the lack of race-for-fish conditions, these vessels apparently now (2008) more frequently stock up on filters and related parts directly themselves rather than purchasing them in King Cove.

PPSF also acts as a vessel support business through their "storeroom" marine hardware facility. Open to the public, not just those who have other business with PPSF, this represents the only source of a range of marine hardware in the community.

Welding Services

There are two one-man welding businesses in the community that do marine work as well. In 2004, immediately prior to crab rationalization, one of these, Warren Wilson Welding (WWW) had begun to be run as a full-time business by a former commercial fisherman, while the other continued to be run as a part-time/secondary business or source of income by an active fisherman. More recently, however, WWW has become a part-time business, according to its owner, due to slow periods during the year that were attributed at least in part to a drop in volume of work related to the consolidation of crab vessels under the rationalized fishery. At present, the owner of WWW balances an airport job he started in 2007 with his welding business, while the other welder in the community characterizes his work as consisting of spill-over jobs that come up when the owner of WWW is out of town or otherwise not available. The less active welder also made the observation that the remaining vessels in the fleet tend to be the better maintained vessels, requiring relatively less work in King Cove than the average vessel in the pre-rationalized crab fleet. Further, there is less demand for pot racks under rationalized conditions and there is less damage to be repaired on pots and launchers than was formerly the case. Both businesses continue to derive work from the fishing fleet, including outside vessels that spend a portion of the year in the community.

Vessel Supply Services and Local Stores

Vessel supply-related business is a significant part of the local support service economy. At present (2004), there are four stores in the community. Two of these are larger, more general purpose stores and two are specialty operations.

Of the two smaller stores, one is run by PPSF (the Peter Pan Seafoods Convenience Store [locally known informally as the "C Store"]) 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 (and to a lesser extent fishing) work-related items. The other small store, Rams General Store, is currently (2008) open from 6:00 p.m. until 10:00 p.m. most of the year, staying open an hour later during the summer months. It essentially functions as a convenience store for the Rams Creek and Deer Island subdivision residential neighborhoods[33] that were built approximately a mile away from the main downtown area of the community beginning in the early 1980s, as well an after-hours store for the whole community. Under its current ownership for approximately 5 years, it is typically staffed by one individual at a time, with these workers drawn from the family of its

[33] The neighborhood constructed first among these two, closer to the downtown area, is known alternately and informally in King Cove as Rams Creek, Rams I, and Old Rams. This subdivision is the location of the new clinic, diesel-fueled power plant, and school, all of which were built within the last few years, many years after most of the residential units in this area, as well as the community center building. The second neighborhood constructed of the two, Deer Island, is also known in the community as Rams II or New Rams. In addition to residences, this neighborhood contains the offices of the AEB Finance Department and those of the Agdaagux Tribe. The City Shop is located between the two neighborhoods, and the town landfill is located well beyond the Deer Island subdivision, traveling away from the developed portion of the community. In addition to having some homes located away from the downtown area along the road to the airport, King Cove has another residential area that is encompassed neither by the downtown area or the Rams Creek or Deer Island subdivisions. A number of homes are located across King Cove Lagoon from the downtown area. This area was reportedly originally a 150-acre area homesteaded by a local family, and apparently most home owners in this area are descendants of the original owner.

owner. According to one of the family members who often works at the store, no outside crabbers ever visited the store pre- or post-crab rationalization implementation.

The two large stores in King Cove, John Gould & Sons Company, Inc. (commonly referred to locally as "Gould's store" or simply "Gould's") and the Alaska Commercial Company (commonly referred to as the "the AC store" or simply the "AC"), carry a range of goods and derive a substantial portion of their business from the fishing industry. These stores are reported to 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 (2008) owned by a son of the founder and run by a grandson 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 "package liquor" store and sells a range of household furnishings and appliances.

During an interview in 2004, the owner of Gould's estimated that between 20 and 30 percent of the overall business was 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 was attributable to crab vessels in particular, with crab vessel sales typically involving fresh items, such as fresh produce, eggs, and milk (whereas cod, halibut, and sablefish vessels tend to buy more groceries, stay in the community longer, and buy more locally in general). When crab vessels were required to spend more time in the community with tank inspections or even in the event of a strike, the upturn in business was seen over a longer period of time. As of 2008, however, the owner estimated that crab vessel-related sales had shrunk to a fraction of the levels seen prior to the fleet consolidation that occurred with the implementation of crab rationalization, such that the store now only receives orders from a "handful" of boats (estimated to be between five and seven per year). While individual crab boats are seen in the community for longer periods of time, due to the lengthening of seasons under rationalization, this increase in interactions with a smaller number of vessels does not reportedly make up for the losses associated with the decrease in the number of vessels, especially for grocery sales, as "fewer guys can't consume as much" as the larger number of crew members prior to rationalization. Further, according to the owner of Gould's, with increasing predictable seasons in the rationalized BSAI crab fishery, more vessels are ordering goods shipped up directly from Seattle and dropped off for vessel pick-up at PPSF, rather than shopping through local stores.

Gould's store is located near the PPSF processing plant (and is closer to the plant than the AC store), and processing workers do constitute a portion of the business on a daily basis. Popular items with processing workers are reported as ethnic foods, soups, videos, CDs, tapes, and local souvenir clothing, along with personal care items.

According to store management, in 2008 Gould's was facing challenges not only because of a loss of fishery-related business (attributable, in part, to a drop-off in direct vessel sales from the reduction of the crab fleet and, less directly, due to a loss of crab vessel crew jobs by members of the community who would have otherwise spent more money locally), but also due to a loss of general store market share to the AC. This loss of market share includes fishing vessel-specific business, reportedly exacerbated by the relative proximity of the AC store to the harbor and, in the case of local fishermen, a reported phenomena that, in store sales, the family tends to follow

the skipper (that is, general family shopping tends to occur where fishing-related shopping by a skipper family member takes place). Market share has also reportedly been lost to more individuals directly shipping in goods from big-box stores and other suppliers from outside the community than was the case in earlier years.

Employment at the store is currently (2008) mostly family, with four full-time positions held by family members and up to two full-time positions held by others, with an additional three variable part-time positions that are also held by nonfamily members. This is roughly the same level of employment noted in 2004 (pre-crab rationalization) interviews, but still down significantly 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 has been and continues to be a challenging one. Finding and retaining full-time employees from a relatively modest labor pool is reported to be difficult, especially when a substantial number of local residents want to take time off to participate in local commercial fisheries. According to information gathered during earlier (2001 and 2004) interviews, when fishing seasons are good, the store receives larger fishing-related orders, but during leaner seasons proportionally more palletized goods reportedly 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 for the store typically come in by barge, with Coastal Transportation providing primary service to the community as noted above. (PPSF also moves cargo in and out of the community but typically does not provide shipping services to other businesses, including Gould's.) Gould's store is currently (2008) open Monday through Saturdays from 10:00 a.m. through 7:00 p.m. and on Sundays from noon until 4:00 p.m.

The AC store is a comparatively new entrant into the community, having taken over the lease on a KCC 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 as well as fishing-related business in general than the other large store in the community. While the store carries a wide variety of goods, including furniture, clothing, sporting goods, hardware, and the various and sundry items that are commonly found in typical general stores in rural Alaska, groceries remain the main business line of the store.

In terms of the relative importance of commercial fishing to the business base of operation, the manager of the AC store when interviewed in 2004 (prior to the implementation of BSAI crab rationalization) stated that outside vessels, primarily crab vessels, accounted for roughly 40 percent of the overall business of the store, but that things were changing with shorter crab seasons, however, as it was reportedly easier to resupply out of Seattle for very short seasons than it was for longer ones. Crew on these vessels also apparently purchased more "nice to have" and not just "need to have" items during good seasons, and less turnover of crews, all

things being equal, meant a lesser volume of (nongrocery) sales as well. Shorter and less lucrative seasons also reportedly translated 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). By the time of 2008 interviews, the manager of the AC store estimated that outside vessels activity was down (from 40 percent) to roughly 10 percent of the store's business base, and that for crab vessels in particular, the store "was lucky if they even buy groceries" now.

Local commercial fishing accounts for another large segment of the business at the AC store, but, according to the manager, it is not possible to differentiate that part of the business from the general residential community trade, due to the family nature of most local catcher vessel operations. Unlike some communities, in earlier (2004) interviews, processing personnel in King Cove were reported to constitute a significant portion of local store sales, accounting for roughly 40 percent of nonfood sales, with music sales comprising a marked proportion of these sales. Items such as rugs to personalize company living quarters, and hot plates and other small appliances were important as well. By 2008, however, this business segment was also of lesser importance to the overall business as reportedly due to a number of factors (including a reduction of overtime pay with the implementation of rationalized fisheries, including the BSAI crab fishery), more processing crew members were saving more of their earnings and sending them back to their permanent home communities rather than spending them in King Cove. In 2004, some items, such as sportfishing gear, reportedly would not be stocked if not for processing personnel, but by 2008, the sportfishing market had shifted to a more local resident base and locals, including a number of lifetime residents, took up the use of rod and reel for some fishing, including trout. Sales of goods to processing workers for shipment to families overseas, such as hardware and clothing, were also reported to be common in 2004 (with a steady stream of new business deriving from new customers due to processor worker personnel turnover) and are reported to be less so in 2008, with increases in shipping costs, combined with the already noted decreased overtime and increased savings trends, making these types of purchases less popular than in the past.

In terms of an annual cycle, the AC store manager in 2008 reported that a number changes have occurred in recent years. While in 2004, interview data suggested that the January crab openings represented a "big push" for the store and provided a bit of an operating cushion for much of the rest of the year, which had become all the more important in the face of other fishery declines. After the crab season there was a low, with another pickup seen related to cod activity in March and April. In 2008, January fishing (and the related revenues in the store) was described as scratchy, with a increase in February that then lasts through April. During late April and the month of May, activity at the store now (2008) typically slows, such that inventory is normally taken and general store improvement projects are also undertaken at this time. Although there is some halibut fishery-related business during this time, fishery-related activity does not increase again by a substantial amount until around June first, when salmon-related business starts to bring a number of pulses of activity during the summer months. In 2004 interviews, fall fishing-related business was described as very slow in the previous years until the crabbers came again in October for a couple of weeks, after which the year finished out with a slow period. By 2008, however, fall business had picked up with increased local crab fishery activity, as well as back-to-school, Halloween, Thanksgiving, Christmas, and New Year's holiday-related sales. On balance, according to the store manager in 2008, despite the various shifts in busy and slow periods and the specific decline of BSAI crab vessel-related business with the consolidation of

the fleet that accompanied rationalization, business at the AC had remained relatively stable and had been more on "an even keel" throughout the year, experiencing at least modest annual growth in revenues for the past several years, including the span of years post-crab rationalization implementation. This, however, was reportedly due at least in part to a gain in market share of local general store trade relative to the other large store in town, not necessarily an overall gain in sector sales in the community as a whole, although relatively strong local performance in both the local salmon and cod fisheries has been beneficial as well.

Employment at the AC store has fluctuated between five and six individuals in recent years. In 2008, this total included three full-time individuals. After a number of years of not hiring temporary workers for the summer due to relatively poor local salmon seasons, in 2008 and the previous few years AC has hired a couple of school-age part-time employees during school summer vacation as extra stocking help. As in previous years, the store manager reports that fluctuations in the fisheries can be seen not only in the volume of business at the store, but also in the number of customers using welfare benefits for purchases, although the latter is not always directly correlated to fishing conditions (but, more likely, a combination of fishing conditions and alternative employment opportunities). During the particularly low period for the salmon fisheries in 2002, the manager estimated that there were between 30 and 40 cases of use of benefits whereas there has only been a single case 5 years prior to that. As of the fall of 2004, given an upswing in local fisheries, the local manager reported that there were only about five families using benefits for purchases at the store. As of 2008, about 10 families were estimated to be using food stamps to assist with purchases, and larger number of customers were also utilizing Women-Infant-Children benefits. At present (2008) the AC store is open 9:00 a.m. to 8:00 p.m., Monday through Saturday, and noon to 4:00 p.m. on Sundays.

Diving and Vessel Charter Services

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 inspect hulls, clear propellers, or the like. According to this individual, local volume of dive business has declined since crab rationalization and as of 2006 he began contracting for dive work outside of the community, which to date (2008) has included work in Cold Bay, Anchorage, and Adak. As is common in King Cove, this individual also pursues a diversified income strategy, which in this specific case includes commercial fishing in the summers and work at the Cold Bay power plant in the winters.

Some King Cove vessel owners also derive some income chartering their vessels. These charters can include runs to Cold Bay or other locations to move crew or parts for vessels when weather closes down air transportation or other logistical arrangements are simply less efficient. There are also occasional opportunities to charter for research efforts by various governmental agencies or contractors for educational or private sector ventures. During fieldwork in May 2008, geologic research was being done out of the King Cove harbor on plate boundary tectonics and volcanic activity, but this was being largely carried out via a helicopter that was brought into the community for this effort.

Bar and Restaurant Services

There are two bars in the community, MC's and the Last Hook Off, 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. MC's is characterized more as a "fisherman's bar" and is located inland immediately across the road from the boat harbor. The popularity of MC's with fishermen can be seen in the tradition of crew writing out the names of their vessels with marker pens on dollar bills, one letter per bill to spell out the name, and putting these on the wall inside the bar. MC's does derive business from permanent local residents as well, but reportedly more so for pull-tabs, pool tournaments, and special events than as a steady business base. Processing workers from the local seafood plant also make up some of MC's business base, although currently (2008) they are not specifically targeted as a clientele segment as in some previous years, except for some special events. (While under its current ownership it has been operating year-round since before crab rationalization, under previous ownership it was reportedly essentially run as a one-person or small family operation and was closed periods when that owner, currently a resident of Adak, was out of the community, typically during non-peak fishing seasons.) MC's bar currently (2008) opens at 8:00 p.m. and closes at 3:00 a.m. (or earlier if a lack of activity dictates), year-round (except it reportedly opens earlier on Super Bowl Sunday).

Prior to rationalization, MC's bar saw marked crab season-related activity peaks during the October/November and January/February periods (with the latter period overlapping with strong cod and pollock activity). In 2004, prior to rationalization, the owner estimated that crab fishing-related sales made up roughly 30 percent of the overall yearly sales. Also prior to rationalization, November (after crab) and December were characterized as slow months due to little fishing activity but, perhaps paradoxically, May through July, at the peak of salmon season, was also very slow as salmon is primarily a local fishery, and while theoretically generating a lot of economic activity, locals were actually out on the fishing grounds rather than spending earnings in the community. The overall pattern of activity at the bar has reportedly changed somewhat since crab rationalization. According to the owner, currently (2008), slow periods are similar, with June and July still being the lowest activity months of the year, with November and December also being slow. Peaks, however, have changed. January and February are still (as of 2008) active months, but not at the levels seen prior to crab rationalization, as cod vessels tend to stay out longer than crab vessels, and the number of crab vessels and crew members coming through town has declined (primarily due to consolidation, but also, to a far lesser degree, the decision by at least a few vessels to switch gear storage from King Cove to False Pass to save run time and fuel costs). September and October are busy months, with October being the peak month of the year, as there is in an infusion of cash and activity in the community with the end of local salmon fisheries and the gearing up for fall fisheries.

Like some of the other support businesses in the community (particularly the stores), MC's used to derive additional business prior to rationalization when it was not uncommon for the preseason gearing-up stay of the crab fleet in the community to be extended by a strike (such as a year not long before rationalization when there were an estimated 90+ vessels in the harbor for a 2-week strike period), but strikes have not occurred since rationalization. Employment at the bar has increased somewhat since crab rationalization. In 2004, the owner characterized employment ranging between two and three positions during the year, but currently (2008) the bar employs three full-time bartenders and a fourth person to help with management and

cleaning. Part of this increase is more apparent than real, however, as at least one of these positions essentially replaces a role the owner used to play.

Like a number of other owners of businesses in the community who were dependent to a substantial degree on the crab fishery prior to rationalization, and who remain somewhat dependent on the crab fishery post-rationalization, the owner of MC's had and has diversified sources of income beyond the single business at hand. Prior to crab rationalization this individual had other local employment and partial ownership interest in another fisheries-related support business in King Cove; while no longer (2008) having other local employment, this individual still retains ownership interest in the other local fisheries support service business and has diversified business ownership outside of the community through acquisition of the Bearfoot Inn in Cold Bay in early 2006. With the completion of a combined road/hovercraft surface link between King Cove and Cold Bay in recent years, the economies of the two communities are perhaps more closely tied than in the past (although the private sector economy in Cold Bay remains relatively small due to a disproportionate local level of federal, and to a lesser degree state, agency activities). Formerly the Weathered Inn, the Bearfoot Inn represents a suite of businesses including a hotel, bar, liquor store, and grocery, the latter of which services the communities of Nelson Lagoon, False Pass, and Port Moller through "bush orders," further creating economic ties on a subregional basis. All of the Bearfoot Inn businesses cater to sports hunters and fishermen, transient government workers on assignment in Cold Bay, and others connected through Cold Bay as a transportation hub (where it is not unusual to be weathered in during some times of the year). For MC's in King Cove, like for a number of other businesses, while commercial 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 business owners specifically, or local household economies in general.

The second bar in King Cove, the Last Hook Off, is run by the KCC and is located in the KCC building that also houses the Fleets Inn, KCC offices, and a restaurant. The Last Hook Off 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. Like MC's, the Last Hook Off has a couple of pool tables and sells pull-tabs. According to KCC leadership, the bar is currently (2008) operating at financial break-even or slightly better status after a number of years of lower financial performance (including several years pre-crab rationalization, which included peak crab season-associated business pulses). The Last Hook Off bar, like MC's bar, typically operates daily from 8:00 p.m. to 3:00 a.m. (closing earlier if a lack of activity dictates), year-round.

At present (2008) there is a single independently run restaurant in the community, King Cove China, which opens at noon and closes at 1:00 a.m. and 3:00 a.m. daily. Located in a leased space in the KCC building, King Cove China is run by a married Korean American couple originally from outside of the community and serves burgers, sandwiches, and chicken and seafood baskets in addition to a variety of Chinese food. This business has been in operation for several years.

The PPSF cafeteria-style galley or mess hall, while designed to service its own labor force, is also open to the public for meals three times a day (from 6:45 a.m. to 8:00 a.m., from 11:45 a.m. to 1:00 p.m., and from 4:45 p.m. until 6:00 p.m.). All meals are available for a flat fee of $10.00 per meal ticket, which may be obtained at the PPSF office.

In past years, King Cove had a pizza and submarine sandwiches restaurant (Uptown Pizza) but at present (2008) this entity reportedly only supplies an occasional pizza for a special event but is otherwise not open, and another former bakery/burger/ice cream shop (A&E's) that operated only seasonally has permanently closed and the building is being converted to residential use. In June 2007, however, another establishment, Jane's Java Jungle, opened. This small business, located on the boardwalk next to the KCC building, serves espresso drinks, Italian sodas, and smoothies and is currently (2008) open Monday through Friday 10:00 a.m. to 5:00 p.m., opening a half-hour later on Saturdays, and operating noon to 5:00 p.m. on Sundays. Operated by a single individual, usually the owner, extra help is added during especially busy periods of the year.

Photo by Della Trumble

Jane's Java Jungle

Lodging Services

The KCC runs the Fleets Inn, a 12-room hotel in the building that also houses its office, the Last Hook Off bar, and the King Cove China restaurant. Currently (2008) a total of six of the rooms of the Fleets Inn, representing half if its capacity, are leased for half of the year by PPSF for company employees during peak processing seasons, typically from January into April and again from June into August. Additional rooms are rented by the processor in overflow situations and not infrequently by other fisheries-related guests, with another block of demand including school district and AEB government-related activities. During the years immediately prior to crab rationalization, PPSF leased an apartment building on a long-term basis from the KCC but more recently has purchased this building from the KCC (otherwise PPSF owns its own land and facilities and formerly did not lease, nor does it currently lease, other lands or structures from the KCC).

Beyond the Fleets Inn, there are limited opportunities for short-term lodging available to the general public in King Cove. One of these is the Salmonberry Bed and Breakfast (B&B), operated by a local couple. According to one of the owners of this business, the Salmonberry B&B opened for business in October 2006. Guest facilities essentially consist of an extra bedroom in a family residence, with guests sharing other common areas of the house with the resident family. With an estimated occupancy of approximately 100 nights per year, and located near the new King Cove School and King Cove Clinic, this B&B typically draws professionals as its clientele, including transient health care providers as well as school district personnel. There is one other B&B in the community run by an individual resident who also utilizes a spare room in their home for guests. Both B&Bs typically attract customers through word of mouth, as King Cove sees little in the way of travel-based tourism. Other short-term lodging is sometimes available in the community as the owner of one of the local apartment buildings will rent out apartments on a short-term basis if they are not currently being utilized by individuals with longer term leases.

Other KCC Support Services

Beyond the Last Hook Off bar and Fleets Inn operations, the KCC is involved in a range of local enterprises that effectively function as fishery support services. The KCC derives lease income

from the building it constructed for use as a Post Office and its building that is currently (2008) occupied by the AC store. Sand and gravel sales represent another KCC local business activity, the products of which have recently been used for a range of local construction and infrastructure projects, such as road and airport upgrades. Formerly operated through a lease arrangement, sand and gravel have been sold directly by the KCC since the expiration of the previous lease in mid-2007, according to KCC leadership. The KCC land used for sand and gravel operations also provides some of the KCC's crab pot storage capacity, although the KCC currently (2008) is not actively charging or collecting fees for this service. The KCC formerly owned the Russell Creek hatchery facilities in Cold Bay but more recently sold these facilities to a private individual (who is not a King Cove resident) who reportedly may be interested in developing a lodge on the site.

A second ANCSA Native Village Corporation, the Belkofski Corporation, is also based in King Cove. Shares of the Belkofski Corporation are held by former residents of (or descendents of former residents of) the nearby village site of Belkofski. The Belkofski Corporation is not actively involved in business ventures in King Cove, according to a corporation board member, nor is it apparently now (2008) otherwise active in the community (although, as described below, the Belkofski Tribe, whose membership overlaps with the shareholders of Belkofski Corporation, is involved with undertakings and provides some employment in King Cove). According to KCC leadership, however, the KCC is interested in discussing combining forces in some manner with the Belkofski Corporation (which has many fewer shareholders than the KCC) to pursue business opportunities, but this has not yet come to fruition.

The KCC currently (2008) employs a total of seven local residents (down from a total of nine in 2004), all of whom are part-time employees with the exception of the full-time KCC president. The part-time employees include three bartenders, one janitor, one maintenance worker, and two individuals who help in the office.

Agdaagux and Belkofski Tribal Operations

The Agdaagux Tribe, which represents the traditional Alaska Native government of King Cove, has a membership of about 730 members as of 2008, according to an estimate of a local tribal official, most of whom live in King Cove. The Agdaagux Tribe provides six full-time and two part-time employment positions in King Cove on an ongoing basis as of 2008, a level of employment that apparently has been relatively steady for several years (including a number of years prior to BSAI crab rationalization). The Agdaagux Tribe is involved in providing a variety of social services on an ongoing basis 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 have previously reported that demands for social services have varied with the vitality of local fisheries, where declines in the economic vitality of local commercial fishing have led to marked increases in the demand for a range of their social services. According to a local tribal official interviewed in 2008, the types of jump in the demand for social services sometimes seen in conjunction with periodic declines in local salmon fisheries in particular were not seen in conjunction with BSAI crab rationalization, and while the community itself was not hurt "too badly" by crab rationalization, a number of people were directly affected by crew job losses (perceived by this official to be eight or nine individuals). According to this same tribal official, the local impacts of BSAI crab rationalization that might have led to an

increase in social service demand were offset, at least to some degree, by an increase in financial returns in the local cod fishery during the same time period.

The Agdaagux Tribe (and others in the region, through the Eastern Aleutian Tribes organization) 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, as described in separate clinic services discussion below.

The Agdaagux Tribe has also been involved in building community infrastructure through the administration of BIA road-building funds, with one relatively recently (2004) completed project being improvement and paving of the roadway from the community to the airport, to better support local transportation needs (including servicing fishing and other local economic activities, as well as serving general residential transportation needs). An earlier reported advantage of running the road funding through the BIA rather than other entities is that the agency has more effective local hire provisions than other entities; this, in the case of the airport road upgrade and paving project, resulted in training and employment for about a dozen local residents at its peak. At present (2008) the Agdaagux Tribe has no major construction projects underway, but it has worked with the City of King Cove to secure funding for a downtown area roadway improvement project, which will include paving. Scheduled to begin in the summer of 2008, this $6-million-plus project is expected to run through 2009 and provide significant local construction employment.

There is also a second tribal entity in the community, the Belkofski Tribe. Belkofski Bay, the first major bay to the east of King Cove along the south side of the Alaska Peninsula, was the site of Belkofski village. Though still used as a base for subsistence activities, the village site, located on the east side of the bay facing Belkofski Bay to the west and the Gulf of Alaska to the south, is no longer occupied year-round. Tribal staff estimate that the Belkofski Tribe currently (2008) has between 60 and 65 members, with more members in King Cove than in any other community. With offices in the KCC building, the Belkofski Tribe has (as of 2008) three full-time employees in King Cove, including a director of environmental programs, an environmental assistant, and an administrative employee. (A fourth position, an office receptionist, is currently vacant.) The current (2008) major undertaking of the Belkofski Tribe is the environmental cleanup of the Belkofski village site, which has experienced environmental impacts from oil, asbestos, and lead paint, among others. In King Cove itself, the Belkofski Tribe is also involved to a degree with environmental issues, according to office staff, providing some support to the Agdaagux Tribe in their recycling program and addressing indoor air quality issues, primarily mold related, for their members' homes in King Cove, as well as homes of Agdaagux Tribe members to a lesser degree. The Belkofski Tribe also sells pull-tabs out of their office in King Cove on weekdays. One Belkofski Tribe staff member offered the observation that BSAI crab rationalization has negatively affected their tribal members, as well as others in King Cove, by adding to cumulative family hardships exacerbated by rising fuel prices, through the loss of crab vessel crew jobs and income. While both local salmon and cod fisheries are perceived as becoming stronger recently, reportedly the simultaneously occurring rise in the cost of fuel and, in the case of cod, bait have increased expenses to the point where at least some of the potentially offsetting gains in these fisheries (that would counterbalance the loss of crab-related infusion of income into the community) have been negated.

Other Local Business and Service Provision Activities

Other Private Sector Businesses

Between the fishing harvest and processing sector employment noted in earlier sections, and the support service sector employment noted above in this section, according to multiple community contacts from all sectors, there were few other private sector-type jobs in King Cove. These did include some locally based work with larger entities, such as telecommunications work [TelAlaska] and airline agent work [PenAir], along with some small-scale locally based work. An example of the latter is an individual who essentially has a one-man construction business, although he does occasionally hire workers on a temporary basis. While this individual has engaged in commercial fishing in the past, he reports that currently (2008) there is more money to be made in local construction work and that there is no shortage of this type of local work for a business of his size, such that he has turned down a number of small jobs recently. In general, however, 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, both for permanent positions (to a much lesser degree) and more limited-term positions related to local government-sponsored capital improvement or other governmental infrastructure projects (to a much greater degree). Few state or federal government-related positions of any type are typically available in King Cove, and consistent, long-term state or federal government-related jobs are even more rare, with the exception of some work at the local branch of the Post Office.

Community Centers and Recreation

While not a support business, the City of King Cove has recently converted the old clinic building (a city-owned structure on PPSF land leased by the city for a nominal amount) to a community resource facility (the "Community Co-op") that houses a workout area (furnished largely with donated equipment), a resource room with internet connections, an artists/local crafts store, a second-hand store, and an elder's resource room that is intended to house local historical resources. This facility functions 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 basketball competitions still draw participants from all sectors of the community. While there has recently been a new school built in the Rams Creek part of the community, well removed from the downtown portion of the community, the gymnasium in the former school facility, adjacent to the PPSF facility, is operated by the City of King Cove Recreation Department for community recreation. The recreation department also operates a teen center adjacent to the old school building downtown, and a community center near the new school site. The community center is the location for a variety of community and private special events, such as weddings, that draw participants from all sectors of the community, and it is also the location for local Boys and Girls Club activities. The community center is also rented twice weekly by the Andaagux Tribe for bingo. (There is also a long-established Women's Club in the community, a nonprofit entity that sponsors community 4th of July and Christmas holiday special events, among other civic activities, and funds its activities through pull-tab sales as well as donations.)

King Cove Clinic

The King Cove clinic, which moved to a new building in the Rams Creek area of the community in the early 2000s, is a designated community health clinic operated by the Eastern Aleutian Tribes that serves everyone who is in the community. In its new location, the clinic (along with school and community center) is now located in the tsunami safe zone (and all three are designated as evacuation centers and have back-up electrical generation capacity).

Clinic management staff report that while no summary service statistics are available locally, current (2008) demand for services does tend to peak during busy fishing times, although the level and timing for fishing-related services appear to have changed from what was reported in earlier (2004) interviews. According to clinic staff, in the days leading up to openings, the clinic sees walk-ins from outside the community who have forgotten their medications and need refills before going out fishing. Once a given season starts, there are a number of injuries that could be characterized as being akin to sports injuries, where individuals who have not been performing hard physical labor go out without proper preparation and end up with strains and sprains. These types of injuries are reportedly seen for all of the fishing seasons, as are "repetitive motion" types of injuries. Processing worker injuries also increase at peak times and may carry the added challenge for clinic workers of dealing with individuals of different cultures who may speak very little English. Slow periods at the clinic now occur in the April–May period and again in December, but most winter complaints seen at the clinic are upper respiratory infections rather than acute injuries (although a range of injuries, mostly minor, associated with processing workers working very long shifts during high volume processing times still occurs).

Also according to interviews conducted in 2004 (pre-BSAI crab rationalization), other types of injuries are associated with the "live hard" ethic shown by people headed out for the more intense fisheries, such as the Bering Sea crab fisheries, where this burst of objectively dangerous activity may be accompanied by binge drinking while in port. According to clinic management in 2008, however, there was only one major injury from a boat seen during the past year and most crab boats whose names appeared in earlier years' billing records are no longer seen in town, much less associated with an increase in clinic services demand. On the contrary, according to clinic management staff, at present (2008) BSAI crab seasons no longer create noticeable changes in the level of service demand at the clinic. Prior to rationalization, clinic staff reported there was always some business associated with the crabbers who came to town, but in 2008 the person in charge of the billing department could not recall any clinic services associated with any outside crab boats in more recent years. This has impacted clinic revenues, as injured or sick crew from crab vessels were typically covered by workers compensation and had income levels high enough that they did not qualify for reduced fees under the clinic's sliding scale system. Care provided in these cases was thus not "adjusted off" the clinic's books, and full charges were assessed and normally promptly paid, even if the crew members merely had the flu.

Quality of care also feels the impact of fishing seasons, especially when patients need to be transported to Anchorage. According to interview information gathered in 2004, during peak times when the transportation system is at maximum capacity, a patient may have to wait 5 to 7 days to get an available seat on a commercial plane out of the community, or alternately spend $25,000 or more on a medivac, and according to clinic staff this situation was still the same in 2008. A roadway/hovercraft combination link has recently become available and can be of

notable assistance in getting medivac patients from King Cove to Cold Bay, which, with its much larger and more sophisticated airport facility, is both served by chartered "life flight" services (unlike King Cove) and more reliably served by regular air carriers than is King Cove. However, during the winter of 2007–2008, environmental conditions (such as temperature below a certain threshold and wind speeds above another threshold) delayed the hovercraft in getting patients into the life flight system at Cold Bay. In cases such as these, some of the larger local commercial fishing vessels, if available, can be used to get patients to Cold Bay.

Whatever demand commercial fishing-related services place on clinic staff and resources, however, the provision of services to transient fishermen and locally based processing workers is economically important to the operation. Whereas local residents are typically covered by Indian Health Service benefits, which provide a minimal level of revenue to the clinic, others are typically not beneficiaries of this system and pay for services directly or through private sector insurance companies.

Current (2008) King Cove clinic staff include a permanent nurse practitioner, a substance abuse/licensed behavioral health clinician, a behavioral health wellness coordinator, a masters level social worker, and two community health aides, all of whom are full-time. Additional *locum tenens*[34] staff, provided by the Eastern Aleutian Tribes (typically a nurse practitioner or a physician's assistant), will fill in on a short-term basis if the clinic is short-staffed due to leaves-of-absence or unfilled positions. As the regularly assigned nurse practitioner is on-call 24 hours a day, 7 days a week, *locums* staff can also provide periodically needed case load relief. Another 10 support staff, all of whom but 2 are full-time, support King Cove operations and also travel to other Eastern Aleutian Tribes operated clinics in the region. Other local employment at the clinic includes three front desk personnel, three administrative/billing personnel, one elder's program coordinator, and one part-time maintenance person and one part-time janitor.

Additionally, Alaska Native patients are seen by clinical personnel from the Alaska Native Medical Center who rotate into the community (and who see patients at the clinic, but who are not funded through the community health center), including a medical doctor/general practitioner and a dentist, both of whom typically visit King Cove twice per year, and an ophthalmologist, who typically visits the community once per year. In the past, the Eastern Aleutian Tribes did base a doctor and a dentist out of the King Cove clinic but reportedly found it financially infeasible to sustain over the long term. The clinic has been successful in getting some non-Native patients seen by a transient dentist in the community, but the clinic has not been able to meet its desire of retaining a full-time dentist in the community. Non-Native residents can only obtain to access physician care if they travel outside King Cove. Alaska Native residents who also need to be referred to physicians outside of the community cannot do so without restrictions on the severity of the need (it cannot be a minor issue) and a limit on the number of referrals or appointments, unless the patient is willing to incur additional, out-of-pocket costs.

Public Safety Services

The King Cove Department of Public Safety provides local law enforcement services, fire prevention and suppression services, and emergency medical services to the community of King

[34] Literally "place-holder," the term is used in medical and some other professional settings for a person who temporarily fulfills the duties of another.

Cove. The department continues to provide 24-hour/365-day coverage to the community, but the depth of coverage is determined by the city budget and has varied over recent years. At present (2008) the department, in addition to the full-time director/police chief, is staffed by three full-time police officers, and one person who combines a part-time position as the chief of fire and rescue services with a part-time position as a dispatcher into full-time employment with the department. Additionally, the department trains and oversees 16 volunteer firefighters and 10 emergency medical service volunteers.

According to the director of public safety, while there were more calls for law enforcement services during the peak BSAI crab seasons prior to crab rationalization, and the reduction in these calls and associated community disruption has been a relief to department personnel, police service demand and levels of crime have, in his experience, been more related to general community unemployment levels than to activity levels in any given fishery. According to the director, crimes in King Cove tend to occur when people are not working, which increases the number of individuals dealing with both depression and alcohol abuse, which, in turn, results in more domestic violence and family problems.

Both the director of the department and the head of fire and rescue services reported during interviews in 2008 that fishing industry-related demand for services has also been reduced in recent years due to PPSF using a better physical (medical) and drug screening process for prospective employees prior to bringing them to King Cove than was the case in earlier years. Although the community population still nearly doubles when PPSF is operating at peak processing capacity, processing-related service demand has reportedly dropped off substantially compared to the years prior to the implementation of the improved screening process. According to public safety department personnel, this combined with changes in BSAI crab rationalization *per se* has resulted in less service demand, less stress on department personnel (especially as they worked longer shifts during peak periods as it was impractical to add temporary, adequately trained personnel), and better public safety conditions in the community in general. Further reductions in service calls have also reportedly resulted from vessel-related changes to the BSAI crab fishery from rationalization. Not only do larger numbers of crews not have as much time on their hands in the community prior to season openings (especially when strikes would occur), but additionally boat captains are now apparently less likely to condone or ignore disruptive behaviors by their crew members in the community that may result in the loss of a crew member, as the fishery has reportedly become more business-like under rationalization conditions. According to the public safety director, crime associated with crab vessels is typically no longer seen in the community as crews "don't fool around" in town; rather, they are only in King Cove prior to their individual vessel start of fishing, and they are more interested in making money and exiting the community quickly after their quota is caught than extending their stay in the community.

Demand for police services is reported by department leadership as more steady in recent years, but peaks and valleys of activity still occur with bear problems in the summertime, with things quieter when local residents are out on the fishing grounds during salmon and cod seasons and during late November and all of December, when PPSF is essentially shut down. Spikes in law enforcement activity that still do occur during the year are reported to occur at the end of fishing seasons when people have additional money to spend.

According to the fire and rescue services supervisor during interviews in 2008, these functions used to average about 24 calls per year or an average of 2 calls per month prior to the implementation of improved PPSF worker screening and the implementation of crab rationalization, which occurred during the same time period. Now the volume of calls has declined to an average of less than one per month; at the time of interviews in May, 2008, there had been no calls for either fire or rescue/emergency medical services in the previous 2 months. The fire chief/emergency medical services director reported that when he first came to the community in 1995 (as a Village Public Safety Officer, rather than as a city department employee, and doing more fire/rescue than law enforcement work), there were typically two structural fires per year and between one and two vehicle or boat fires per year. In contrast, in 2007, there was reportedly only one structural fire and no vehicle or vessel fires responded to by the department. While the ratio of emergency medical service calls specifically are still reported to vary as a function of the number of PPSF workers on-site (particularly as they make up such a large proportion of the total community population at peak processing periods), rescue/emergency medical calls have, like law enforcement calls, been seen to drop drastically with the improvements in PPSF worker screening, with fewer calls in particular related to more elderly workers in general and cardiac cases in particular. Busy times are now (2008) characterized as one call per month. Additionally, with the improved PPSF worker screening, the ratio of PPSF related to other community service rescue/emergency medical service calls has been in the direction of a more permanent community resident focus.

2.3.4 Local Governance and Revenues

2.3.4.1 City of King Cove

As discussed in the introduction, 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 through 2006 as summarized by the Department of Community and Economic Development (DCED) are shown in Table 2.3-11. As shown in the table, total revenues rebounded in 2006 following 3 years that were lower than what was seen in preceding years.

According to both the mayor and the city administrator, current (2008) City of King Cove employment in the community includes:

- 4 full-time positions in the Police Department
- 4 full-time positions with the Harbor Department
- 3 full-time positions with the Electric Department
- 6 full-time positions at the City Shop
- 2 full-time administration positions (Clerk and Finance)
- 1 full-time and multiple variable part-time positions with the Recreation Department

Additionally, the City of King Cove employs a city administrator and an administration manager who are based in Anchorage.

In terms of its overall financial situation, according to the city administrator, King Cove is (2008) "as strong and as healthy now as it has ever been." This represents a substantial turn-around from conditions in the early 2000s when pre-crab rationalization baseline information

Table 2.3-11. King Cove Municipal Revenues, 1999 – 2006

Revenue Source	1999	2000	2001	2002	2003	2004	2005	2006
Local Operating Revenue								
Taxes	$1,011,597	$1,165,613	$806,691	$649,373	$926,188	$1,322,258	$1,458,416	$1,772,433
License/Permits	$2,558	$400	$0	$1,650	$850	$700	$1,820	$32,064
Service Charges	$353,608	$352,848	$70,268	$133,064	$303,212	$92,076	$125,088	$121,079
Enterprise	$882,537	$934,065	$1,208,444	$1,318,137	$1,225,156	$1,212,930	$1,353,797	$1,334,530
Other Local Revenue	$73,020	$124,881	$130,987	$180,680	$34,079	$76,914	$15,939	$53,040
Total Local Operating Revenues	$2,323,320	$2,577,807	$2,216,390	$2,282,904	$2,489,485	$2,704,878	$2,955,060	$3,313,146
Outside Operating Revenues								
Federal Operating	$12,685	$14,518	$40,730	$238,456	$31,729	$0	$0	$140,272
State Revenue Sharing	$29,546	$26,857	$25,885	$25,881	$26,020	$0	$0	$0
State Municipal Assistance	$23,209	$14,034	$12,305	$12,715	$14,910	$0	$0	$0
State Fish Tax Sharing	$257,555	$313,467	$465,413	$341,627	$460,245	$236,098	$358,133	$404,313
Other State Revenue	$112,536	$10,686	$11,643	$12,143	$12,146	$54,807	$162,525	$84,253
Other Intergovernmental	$0	$0	$0	$0	$0	$0	$0	$0
State/Federal Education Funds	$0	$0	$0	$0	$0	$0	$0	$0
Total Outside Revenues	$435,541	$379,562	$555,976	$630,822	$545,050	$290,905	$520,658	$628,838
Total Operating Revenues	$2,758,851	$2,957,369	$2,772,366	$2,913,726	$3,034,535	$2,995,783	$3,475,718	$3,941,984
Operating Revenue per Capita	$3,993	$4,407	$3,500	$3,670	$4,117	$4,143	$4,807	$4,884
State/Federal Capital Project Revenues	$1,017,254	$662,967	$1,134,262	$718,406	$294,907	$81,601	$36,334	$289,949
Total All Revenues	$3,776,105	$3,620,336	$3,906,628	$3,632,132	$3,329,442	$3,077,384	$3,512,052	$4,231,933
Total All Revenues (2006 Constant Dollars)	$4,569,404	$4,238,442	$4,449,583	$4,070,249	$3,647,910	$3,284,281	$3,625,344	$4,231,933

Source: DCED personal communication, spreadsheet supplied July 2008.

was collected in the community. At that time (2002), there has been an overall decline in revenue of 24 percent from fiscal year (FY) 2000 to FY 2002 (moving from approximately $1.7 million to about $1.3 million), which meant that the city was significantly short of budget during that period and was forced to make payroll cuts, including cutting one police officer and one harbor employee. At that time, the City of King Cove also deficit funded the general fund from savings as an emergency measure and, along with local residents, the city received Steller sea lion protection-related relief funds that helped fill the gap in revenue. In 2002, the city administrator stated that even with $175,000 worth of budget reductions, the city was still $250,000 short and would have been over $300,000 short were it not for the Steller sea lion relief funds. Within 2 years, however, revenues had rebounded and cut positions were restored in 2004. Municipal employment has reportedly remained relatively steady since that time. According to the mayor, the city is no longer in a deficit position, and all funds except perhaps the electric fund are in the black and there is at least $1 million in the city's permanent fund. Water and sewer funds, though currently (2008) behind expected performance according to city staff, will be back on track when automatic reapportionment occurs in the near future.

According to the senior city staff, while the harbor fund is also "not the shining star it should be" at present (2008), this is being addressed through an increased focus on administration and collections (which has proved challenging for delinquent accounts), as well as a planned 35 percent rate increase, as detailed below. According to the city administrator, the harbor fund was subsidized by $75,000 from the general fund in FY 2004 and by $100,000 per year from FY 2005 through FY 2008, and is scheduled to be subsidized by $150,000 in FY 2009. This level of subsidy, according to city leadership, is not unwarranted to help the harbor get on its feet in the next few years, given the level of revenue that goes into the general fund in the form of fish taxes (that are, in turn, based on activities that rely to a degree on the harbor infrastructure and services). According to senior city staff, there is now extra momentum to get harbor funding in order to qualify for a desired $3 million in state funding to rebuild that old boat harbor. To do so, the harbor fund will need to be healthy and show that it essentially will be in a sustainable position that would allow locally financed rebuilding efforts on a 30-year cycle.

2.3.4.2 Fishery-Related City Revenues

Local taxes in King Cove consist of a 4 percent[35] 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). Based on data supplied by the City of King Cove Finance Department[36] from FY 2002 to present (FY 2008) about 60 to 70 percent of the city's general fund budget has come from sales taxes on an annual basis. According to the city administrator, of the sales tax totals, in a typical year roughly two-thirds derive from fish taxes, and one-third derives from general sales taxes. In earlier years, the city characterized fish taxes as being split out approximately one-third from salmon, one-third from crab, and one-third from groundfish, but since FY 2002 or so, the typical annual proportion attributable to salmon has declined somewhat, while the proportion associated with groundfish (including halibut and sablefish as well as cod and pollock) has increased, although there continues to be variation on a year-to-year basis. Because the community has only one processor, detailed information on local fish taxes

[35] King Cove increased its tax on general sales from 3 percent to 4 percent, effective May, 2003.
[36] Finance Department spreadsheet, June 2008.

obtained from the community is not presented here due to confidentiality concerns.[37] In addition to local fish taxes, the city also receives annual revenue from the state fish tax refund and the state extraterritorial fish tax (with the former a much larger revenue source than the latter), and the benefits that derive from AEB fish taxes, as described elsewhere.

There are no local property taxes on the seafood processing facilities or any other properties within the community. The City of King Cove recently instituted a fisheries business impact tax, with 2004 being the first full year of its implementation. In the absence of property or similar taxes, the fisheries business impact tax intended to provide revenue to offset, at least in part, the cost of increased demand on city general services generated by PPSF that are not otherwise adequately covered by specific fees or the current level of sales taxes, such as the cost of an increased level of law enforcement services over and above what would be needed for the residential community itself, among others. As originally conceived, the first 10 million pounds of processed product would be tax free and 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. As instituted, however, this has been flat tax and applied only to PPSF. According to the city administrator, while the flat rate is currently (2008) set at $100,000 per year, the amount had dipped to $75,000 per year in 2006 and 2007 after being set at $100,000 per year at its inception. Institution of this revenue source represents a marked departure from the way revenue was previously derived from local processing.

Beyond sales and fish taxes, the community derives fisheries-related revenue from a number of different sources. Local taxes on fuel sales, a strong source of revenues in some communities, have only recently begun to be paid in King Cove. PPSF, the only marine fuel sales outlet in the community, began paying sales tax on fuel sales in 2002. Fuel sales are subject to the local 4 percent tax on general sales and in 2002, after not collecting the tax for an unknown period of time, PPSF agreed to reconcile an apparent lack of payment of taxes on local fuel sales in previous years with a one-time assessment of $100,000 payable to the city in $25,000 installments per year spread over 4 years.

In 2003, the City of King Cove moved from simple flat rate to volume-related water charges for PPSF, which uses approximately 80 percent of the system load. The water rates were set at 90 cents per thousand gallons and are resulting in approximately $185,000 in revenue to the city per year on a steady basis (as of 2008) for a 225-million-gallon service requirement. The city also provides sewer services to the plant at a flat rate of $2,000 per month, year-round, for a total of $24,000 annually. (According to senior city staff, sewer services fees were not collected from PPSF for some unknown period of time prior to the late 1990s; in this case, payment for services for the years prior to active collection was not sought by the city.) Solid waste service revenues from the PPSF 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, with the FY 2008 total anticipated to be approximately $45,000. The solid waste fees, however, are tied to a flat rate per number of truck trips reported (through the honor system) per month, not actual volume of waste. The amount charged per trip is set by city ordinance, which has not been adjusted since PPSF reportedly purchased a truck with approximately three times the capacity of the old truck in or around 2006, with which it now

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

makes trips to the landfill approximately weekly. The city is currently (2008) in the process of expanding the landfill through acquiring an additional 5 acres of adjacent land from the KCC and upgrading the burn-box technology at the landfill, which will both reduce the end volume of waste and have less of an environmental impact footprint than the current facility. This approximately $1 million expansion and improvement project is being funded 85 percent by the state and 15 percent by the city. According to city staff, when these improvements are put in place, the city will review the fee structure for landfill use.

At present (2008), PPSF generates all of its own power independently, as does the City of King Cove, 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 operates the Delta Creek hydroelectric generating facility in the summer months (after spring break-up and before fall freezes), which, at a capacity of 800 kilowatts, is large enough to allow the city to seasonally shut down its conventionally fueled power plant when the hydroelectric plant is fully operational. According to senior city staff, the hydroelectric plant has met as much as 60 percent of the community's residential demand in a year, but in recent years the balance between demand met by hydroelectric and conventional generation has been about even. The city would ultimately like to be able to supply the power needs of all local users, including PPSF, and has embarked on a program of increasing its overall generation capacity. The city has recently (2008) completed a new conventional (diesel-fueled) power plant with a 2.2-megawatt capacity in the Rams Creek area near the new school building to replace its existing conventional plant. This new plant is now undergoing testing and will fully come on line following the summer 2008 hydroelectric season. Waste heat from the new power plant will also be utilized to help heat the new nearby school facility. Between the new diesel-fired plant and the existing Delta Creek hydroelectric facility, the city will have a 3-megawatt generation capacity, and a current demand level of roughly 1 megawatt, leaving an additional 2 megawatts available for other potential users. City officials are hopeful that if an agreement can be reached with PPSF on power sharing, this will have a positive impact on overall business relations between the two entities. As part of an overall system upgrade, the city is also planning to install a new 500-kilowatt diesel "Cat" generator in a shipping container ("conex box") in the harbor and is currently seeking funding for a planned second hydroelectric power plant, which would have a 500-kilowatt capacity and be located in the Waterfall Creek area.

Photo by Della Trumble

New Conventional Power Plant

2.3.4.3 Harbor-Specific Revenues

The city also derives revenue from a number of different fishing-related activities and services in its harbor and adjacent uplands. The city's small boat harbor is designed for vessels up to approximately 60 feet in length and has a total of 62 slips, but larger vessels are sometimes moored at the T-dock in the small boat harbor to better protect them from weather than is possible in at least parts of the larger boat harbor. There are two other docks inside the small boat harbor besides the T-dock, the "bulkhead" or "crane" dock (which is outfitted but not currently [2008] utilized for marine fuel deliveries), and the "approach" or "wood" dock. Another dock, the ferry dock, is located outside of the small boat harbor itself and effectively

forms one edge of the large boat harbor. The small boat harbor is able to supply its tenants with both power and fresh water.

The city's large boat harbor, named the Robert E. "Babe" Newman Harbor, has to date (2008) accommodated vessels up to the 150- to 160-foot range, and has a total of 43 slips. Given that the vessels that have been utilizing this harbor have been longer, on average, than anticipated in the original design, at present typically three vessels are berthed in a number of areas where the original design layout foresaw four vessels being tied up, functionally reducing the maximum number of vessels that can effectively utilize the harbor. The large boat harbor was recently (June 2007) upgraded to supply power to its tenants but does not yet have fresh water service capabilities. The addition of power, however, which has occurred post-crab rationalization, has reportedly been a large factor (in combination with relatively modest mooring rates when compared to other harbors inside or outside of the region regularly used by the BSAI and western Gulf of Alaska commercial fishing fleets) in attracting vessels to the harbor following a precipitous decline in moorings in the first year of crab rationalization.

The City also generates harbor revenues through a variety of harbor fees, including:

- annual moorage (which includes slip moorage and/or on the beach storage on blocks on harbor land);
- quarterly moorage;
- transient moorage;
- ferry tie-up;
- travel lift (used to haul vessels);
- forklift (used to haul seine nets);
- locker use/rental (40 lockers are available in a city building by the city fuel tank farm [and the AC store] and are typically used for net storage);
- skiffs (storage for skiffs hauled out on the beach);
- wharfage (for movement of cargo over the dock, typically from barges);
- pot movement across the dock;
- storage space rental (typically for container vans and the like);
- net loft use (located in the same building as net storage);
- grid use (for vessels that are left to rest up on blocks by the dock as the tide recedes [rather than hauled out] for maintenance, such as prop repair); and
- a few miscellaneous activities (and late fees and sales tax).

Table 2.3-12 provides annual total harbor fee revenues for FY 2002 through FY 2008, from two different sources. First, there are statistics kept by the Harbor Department itself, and these are currently available for FY 2004 through FY 2008. The city finance department also keeps harbor revenue figures that are available as of the time of this writing from FY 2002 through FY 2008 (partial). It is important to note, however, that there are substantial differences between totals from the two sources, such that it is difficult to generalize about the potential impacts of BSAI crab rationalization based on (1) there only being 2 years of pre-rationalization data in the case of Harbor Department data[38] (when there appears to be a great deal of year-to-year

[38] Data from the Harbor Department apparently do not exist in useable form prior to November, 2002 (part way through the second quarter of FY 2003). The consistency and comparability of the existing data that do exist from FY 2003 is less than optimum as well.

Table 2.3-12. King Cove Harbor Fee Revenues, FY 2004 – FY 2007 plus FY 2008 (partial)

Fiscal Year	Grand Total, Harbor Fee Revenues [1]	Total, Harbor and Port Revenues [2]
FY 2002	Not available	$252,750
FY 2003	Not available	$265,540
FY 2004	$223,881.69	$220,614
FY 2005	$298,458.35	$245,506
FY 2006	$272,621.63	$298,979
FY 2007	$263,110.63	$257,572
FY 2008	$305,398.88	$313,000*

[1] Harbor revenue spreadsheets provided by King Cove Harbormaster, May and July 2008

[2] Revenue and expenditure spreadsheets provided by King Cove Finance Department, June 2008.

*Note: FY 2008 figure from the Finance Department based on actuals for the fiscal year through May 2008 and a projection for June 2008).

variability as shown in the Finance Department data for the several years leading up to crab rationalization) and (2) the differences between the two data sources in the last year pre-rationalization are greater than what might be construed (at least partially) as the impacts of rationalization in the post-implementation years in the Harbor Department data. In the case of the Harbor Department data, while there was a drop in revenues from the year immediately preceding BSAI crab rationalization (FY 2005) in the 2 years following that was not made up until the third year post-implementation (FY 2008), all post-rationalization years exceeded the total for the year 2 years prior to the implementation of rationalization (FY 2004). Finance department data would indicate that harbor revenues from all three post-rationalization years exceeded the revenue total from the year immediately prior to rationalization. Clearly, based on interviews with multiple sources, however, there was a large change in at least concentrated use of the harbor prior to BSAI crab openings pre-rationalization versus what was seen after rationalization; how to quantify these changes based on existing data seems more problematic.

Current and planned King Cove harbor rates for selected categories are shown in Table 2.3-13. Other rates, such as pot storage, currently (2008) set at 25 cents per pot per month, are also expected to increase by 35 percent when the new rates are implemented. The new rates are planned to be effective as of the late summer or early fall of 2008.

Table 2.3-13. King Cove Harbor Current Fees and Planned Increase, 2008

Service	Current Fee	Increased (35%) Fee
Fork Lift	$50 per hour	$67.50 per hour
Travel Lift	$13 per foot	$17.55 per foot
Lockers	$528 per year	$712.80 per year
Net Loft	$5 per day	$6.75 per day
Pots	$1.50 per pot	$2.00 per pot
Wharfage	$4 per ton	$5.40 per ton
Storage	$.10 per square foot	$.14 per square foot
Pot Storage	$.25 per pot per month	$.34 per pot per month
Moorage under 61 feet	$.80 per square foot	$1.08 per square foot
Moorage over 61 feet	$30 per foot	$40.50 per foot

Source: Spreadsheet provided by King Cove Harbormaster, May 2008.

Specific BSAI crab fishery-related revenues, according to the King Cove Harbormaster, show up primarily in moorage, pot movement charges, and pot storage fees. As BSAI crab vessels are relatively large, the moorage fees of $30 per foot for vessels over 60 feet apply. Crab (and cod) pots that move across city-owned docks in either direction are charged at a rate of $1.50 per one-way trip (all pots in King Cove move across either the city-owned "T" dock or the city-owned ferry dock—even those from PPSF-affiliated vessels that are going to be stored on PPSF property and those from KCC shareholder-owned vessels that are going be stored on KCC property), and pot storage fees of 25 cents per pot per month on city-owned land are also applicable. Table 2.3-14 presents selected BSAI crab fishery-influenced King Cove harbor fee revenues for the period FY 2004 through FY 2008.

Table 2.3-14. Selected King Cove Harbor Revenues, FY 2004 to FY 2008 (Harbor Department Statistics)

	Annual Moorage	Quarterly Moorage	Transient Moorage	Subtotal Quarterly + Transient Moorage	Subtotal All Moorage (annual + quarterly + transient)	Pots In/Out	Other	Total
FY04	$51,232	$21,386	$45,900	$67,286	$118,518	$22,032	$83,332	$233,882
FY05	$77,435	$23,030	$56,005	$79,035	$156,470	$30,564	$111,425	$298,458
FY06	$60,309	$20,646	$55,943	$76,589	$136,898	$11,798	$123,926	$272,622
FY07	$69,827	$35,180	$52,134	$87,314	$157,140	$12,288	$93,682	$263,111
FY08	$67,846	$48,135	$51,710	$99,845	$167,691	$17,437	$120,271	$305,399

Note: "Other" category includes ferry tie-up, travel lift, forklift, lockers, skiffs, wharfage, storage space rent, net loft, grid use, miscellaneous, late fees, and sales tax.
Source: City of King Cove, Harbor Department supplied spreadsheets, May and July 2008.

In terms of moorage, according the King Cove Harbormaster, revenues from outside crab vessels are seen in both transient and quarterly moorage fees. According to spreadsheets supplied by the Harbor Department, transient moorage revenue was virtually unchanged from the year prior to the implementation of BSAI crab rationalization (FY 2005) to the first year of rationalization (FY 2006), but declined by about $4,000 in the second year (FY 2007) or about 1.5 percent of the total harbor revenues for that year. The revenue from transient moorage in the third year post-rationalization (FY 2008) was about the same as transient revenue in the second year post-rationalization (FY 2007). Quarterly moorage totals alone, or combined quarterly with transient moorage totals, however, show a different pattern. Quarterly moorage by itself decreased in the first year post-rationalization (while transient moorage was remaining steady), such that quarterly moorage alone, and the combined quarterly moorage plus transient moorage total was less than seen in the last pre-rationalization year. However, quarterly moorage increased in the second year post-rationalization (while transient moorage decreased)—and the combined total of quarterly moorage and transient moorage increased during this second year—such that in the second year post-rationalization (FY 2007) quarterly moorage (and quarterly plus transient moorage) totals exceeded immediate pre-rationalization (FY 2005) totals. This increase continued into the third year post-rationalization (FY 2008), such that quarterly moorage revenue alone was more than twice as high as the revenue seen in the last pre-rationalization year (FY 2005) and combined transient and quarterly moorage for FY 2008 showed an increase of about

26 percent over FY 2005 totals. Total moorage, including annual, quarterly, and transient moorage, showed a change (increase) of about 7 percent between the FY 2005 total and the FY 2008 total, although a decrease of about 12 percent was seen in FY 2006 before recovery occurred in FY 2007 and continued through FY 2008. It is important to note again, however, caution must be taken when comparing year-to-year changes based on a single baseline year. In the case of moorage revenue, FY 2005 was a high year compared to FY 2004. In every category except quarterly moorage in FY 2006 only, moorage revenues in each category in each post-rationalization year exceeded moorage revenues from FY 2004.

If combined transient and quarterly mooring revenues are essentially a wash (or a gain), post-BSAI crab rationalization, pot movement paints a different picture. Based on Harbor Department supplied data, revenues from pots (both crab and cod pots) moving in and out of the harbor were substantially lower in each post-rationalization year compared to the year immediately prior to rationalization (by $18,700, $18,300, and $13,127) during the first 3 years post-crab rationalization (FY 2006–FY 2008), respectively, when compared to the same figure for the year immediately prior to the implementation of crab rationalization (FY 2005). This decline represents about 7 percent of total harbor revenues for FY 2006 and FY 2007, and about 4 percent for FY 2008. At a rate of $1.50 per pot, these revenues would suggest that there were a total of 20,376 pot one-way trips across the dock (with some pots moving in and out of storage more than once per year) in FY 2005, with only 7,865, 8,192, and 11,625 one-way trips across the dock in FY 2006, FY 2007, and FY 2008, respectively. According to the harbormaster, however, some caution must be used in interpretation of these figures as the harbor does not capture an estimated 20 percent of all trips (and related revenues) associated with pot movement.

As was the case with overall harbor revenues, however, Harbor Department-supplied data most closely linked with crab fishery activity show a somewhat different pattern, or tell a somewhat different story, than do Finance Department supplied data for those same categories. Table 2.3-15 displays Finance Department data for moorage and pots in/out for a longer time span than is available from the Harbor Department. Unfortunately, for the sake of this analysis, Finance Department data do not break out transient, quarterly, and annual moorage but, rather, give a single total for all moorage types for the year. These data, however, show a dip in moorage revenues from FY 2003 to FY 2004 that is greater than any post-rationalization year dip, and in general show that FY 2006 moorage revenues (the first year of BSAI crab rationalization) were higher than any of the previous years shown. After a dip in FY 2007, FY 2008 moorage revenues are projected (based on 11 months of actual revenues and 1 month of projected revenues) to exceed the moorage revenues of any of the pre-rationalization years shown. Also, these Finance Department data paint a somewhat different picture of crab pot in/out revenues than do the Harbor Department data, where revenues from FY 2003 and FY 2004 were substantially below a run-up (about an 80 percent increase) to levels seen in the 2 years immediately prior to BSAI crab rationalization (FY 2004 and FY 2005), followed by a drop of about 60 percent in revenues immediately post-rationalization (FY 2006), before returning in FY 2008 to levels that are about the same as seen in FY 2002 and FY 2003.

Table 2.3-15. Selected King Cove Harbor Revenues, FY 2004 to FY 2008 (Finance Department Statistics)

	Moorage	Pot Storage*	All Other	Total
FY02	$150,458	$16,536	$85,756	$252,750
FY03	$151,003	$16,678	$97,859	$265,540
FY04	$98,771	$29,610	$92,233	$220,614
FY05	$124,422	$30,269	$90,815	$245,506
FY06	$170,167	$11,645	$117,167	$298,979
FY07	$138,282	$10,883	$108,407	$257,572
FY08**	$165,000	$17,000	$131,000	$313,000

*Note: "Pot Storage" category in Finance Department data appears to be same as the "Pots In/Out" category in Harbor Department data.
** FY 2008 data are based on actuals through May 2008 and projection for June 2008
Source: Revenue and expenditure spreadsheets provided by King Cove Finance Department, June 2008.

An earlier study on the impacts of BSAI crab rationalization on King Cove, Akutan, and False Pass (Knapp and Lowe 2007) provided an analysis of selected King Cove harbor fees (transient moorage and pot in/out fees) by quarter from Harbor Department source data to link those fees to specific times of the year where BSAI crab-related activities typically occurred (January through March for the opilio-related activities and October through December for Bristol Bay red king crab-related activities). There are some indications that this approach has both advantages and disadvantages, based on some consistency issues within the harbor data themselves regarding when activities occur and when they show up in the data. Taking pot in/out fees as an example, in FY 06, there are no fees recorded for the months of January 2006 and March 2006, although it is known that pot movements did occur during these months, such that it is highly likely that data are missing (or recorded in other months, including months outside the quarter in question). In FY 07, pot in/out fees were higher in April 2007 than in either February or March of that year, suggesting that recordation of fees associated with the opilio season either lagged behind the season, or the actual activities associated with a longer rationalized opilio season carried over into the next quarter of the year (which, in the earlier analysis, was not considered as part of the opilio season activity window). Further, although there is otherwise every indication that more crab pots moved in King Cove in January through March 2005 (pre-rationalization) than in January through March 2008 (the third year post-rationalization), pot in-out revenues for January through March 2008 ($11,128) easily exceeded those for January through March 2005 ($9,499), suggesting that data were inconsistently collected, cod pot movements have increased while crab movements have decreased—which would confound the utility of data for crab analysis [as the data do not distinguish between crab and cod pots]—and/or that some other factor or factors are at work that make year-to-year quarterly comparisons for pot in/out data problematic. Also problematic is the absence of comparable pre-rationalization data of a time depth greater than 2 years, so the differing patterns seen between the Harbor Department data and the Finance Department data cannot be cross-checked, or annual fisheries variability accounted for internal to the Harbor Department dataset itself.

For transient moorage, there may be other issues that confound the utility of year-to-year quarterly fee total comparisons for the purposes of BSAI crab rationalization analysis, including the input offered by the harbormaster that BSAI crab-related moorage fees would show up in

quarterly moorage fees as well as (monthly) transient moorage fees (and/or that with the longer seasons that have occurred with crab rationalization, there may have been some shift between the two categories, although given the number of vessels involved, intuitively it would seem that there would be an overall drop in combined transient and quarterly crab vessel-related revenues, given the reduced size of the fleet post-rationalization). Further, however, there are shifts of transient moorage revenues between quarters that are not readily explainable. For example, transient moorage revenues in the October 2004 through December 2004 pre-rationalization period were substantially higher ($17,250) than the analogous post-rationalization period of October through December 2005 ($5,910). However, in 2005, the transient mooring revenues were up by a greater amount in the preceding quarter (July through September) compared to the same time frame in the previous year, for reasons that are not clear. Further, in October 2004, transient mooring fees were more than twice as high for any other month October through March of any year FY 2005 through FY 2008, but there were no transient moorage fees recorded in the previous month (September 2004) or the following month (November 2004), which are the only zero-fee months during this 4-year span. These zero-fee months could be attributable to typical pre-crab rationalization patterns or it could be an issue of timing of recordation, potentially moving fees that should have been attributed to a different quarter than the October to December quarter, which would, in part, account for the very large gain seen in July though September 2005 compared to July through September 2004 as well as a part of the precipitous drop seen in October through December 2005 compared to October through December 2004. These data are difficult to interpret because of the absence of analogous context data from earlier years. Clearly, there were impacts of BSAI crab rationalization felt in King Cove harbor; quantifying those effects is not straightforward with the available data.

2.3.4.4 Upcoming Projects

There are three upcoming projects currently in the planning stage that involve the city that will result in improved local infrastructure and represent additional local economic and employment opportunities in the near future. These include a downtown paving project, a harbor improvement project, and a hydroelectric power system upgrade.

The first project involves the paving of city streets in the downtown area of King Cove. Originally scheduled for the summer of 2008, fuel costs and mobilization issues have arisen such that preparation work is still planned for 2008, but the project as currently (2008) scheduled will extend into the 2009 construction season. This $6-million-plus project is being undertaken as a combined effort of the City of King Cove and the Agdaagux Tribe. The city has a history of working with the tribe on similar projects, such as the roadway improvements from the city to the airport, which represented a unique combination of federal, state, and municipal programs and entities. Originally the state funded a replacement of the downtown area bridge spanning the channel between King Cove Lagoon and King Cove itself, and a related subsequent project upgraded the road from the city to the airport, with the latter representing the first time the Statewide Transportation Improvement Program (STIP) process was opened to a combination of BIA, tribal, and municipal entities, with additional funding coming from other sources, such as the Denali Commission. Dredge materials from the harbor were brought onshore to be used in this project, which saved considerable resources, and by having the tribe take the lead (and the city play a supporting role), access to a range of federal funds, such as those from the BIA and the Administration for Native Americans (established in 1974 under the Native American Programs Act and now a part of the U.S. Department of Health and Human Services that

provides community project-based funding), was facilitated. The currently planned downtown roadway paving project will not only improve the community's infrastructure but will also provide local employment and economic activity. Other planned city and tribal ventures in the more distant future include a waste oil recycling center, landfill improvements, and future phases of work on the road to Cold Bay.

The second project is a harbor upgrade that is planned for 2009. In the older, small boat portion of the harbor, this project will replace floats, revamp the water and electrical system, upgrade the approach dock (but not the T dock), and replace pilings as needed. It is expected that the state's share of the cost will be approximately $3 million, with an additional $3 million in matching funds required, which the city is in the process of pursuing. As part of the funding for this project, the city also needs to demonstrate to the state that the King Cove harbor is being run in a financially solvent manner, which the previously discussed fee increase will facilitate (although the use of some fish tax revenues to supplement harbor use fees on an ongoing basis is also reportedly acceptable).

The third project is a hydroelectric system upgrade that the city would like to start in the Waterfall Creek area in 2009. The city (and its local partners, including the Agdaagux Tribe) is in the process of locating and securing funding for this project.

Other projects are also on the horizon. The city recently obtained the old school building in the downtown area from the AEB and is exploring options for consolidating offices and services into this building and options for taking on other tenants, potentially including PPSF, to help utilize the space and offset some of the operating costs. The city is also interested in a small-scale public transit system, especially as the spatial distribution of key services has changed over time with, for example, the move of the school and the clinic from the downtown to the Rams Creek subdivision area. This potential project, however, is still in the conceptual rather than the planning stage.

2.3.4.5 Aleutians East Borough Projects

The AEB has its financial department offices in King Cove and is otherwise involved in a number of projects that have a direct impact on the local economy of the community. The largest of these projects, the Cold Bay to King Cove surface transportation link, has improved access to the community, provided a significant number of jobs during its construction phase, and continues to provide operational phase jobs to King Cove residents.

At present (2008), the Cold Bay to King Cove surface transportation link incorporates approximately 5.7 miles of roadway from a junction near the King Cove airport to a hovercraft landing ramp and temporary support facility on Cold Bay itself (including a large sprung structure for hovercraft support and a trailer used as support office/passenger waiting area) and a hovercraft that makes the run across Cold Bay from the King Cove linked ramp to another ramp connected to road system that serves the community of Cold Bay itself. This "Cold Bay side" ramp is near the Cold Bay airport, and passengers and freight on this end move between the airport and the hovercraft on an AEB-provided shuttle van.

Photo by Della Trumble

Hovercraft support facility near King Cove

According to a senior borough official, the hovercraft entered service in July 2007 and provided regularly scheduled service until March 2008. It was the AEB's intention to provide service 7 days per week. At the time of fieldwork for this project (May 2008), the hovercraft was not offering scheduled service, but was available for emergencies, such as medivacs, and chartering for school functions and special events. The six-person, normally full-time, crew operating and maintaining the hovercraft, including the captain, is composed of long-time King Cove residents with the exception of the mechanic who came to the community with the project and helped to train the rest of the crew. During the time of fieldwork, however, during which scheduled service was not available, crew positions were part-time, and operations were being only maintained at a minimal level sufficient to keep licenses and certifications valid. Regularly scheduled service is planned to be resumed as of June 1, 2008, but only on a 3-day per week basis, plus charters, primarily due to higher-than-anticipated operating costs.

Hovercraft *Suna-x̂* (Aleut for "large boat"), at 90 tons and 2,400 horsepower, is reportedly the largest civilian hovercraft operating in the United States. It has a total of 40 passenger seats in an enclosed cabin and is able to transport at least one vehicle and cargo on its open foredeck.

There is interest on the part of the AEB and King Cove residents in completing an all-road link between King Cove and Cold Bay. The primary impediment to this link-up is the fact that the land in between the existing road termini (including a section of the road that extends approximately 5 miles past the current [2008] hovercraft ramp on the King Cove side of the road) is a part of the Izembek National Wildlife Refuge and includes a designated wilderness area. For this link to come to fruition, land transfers would have to take place, Congressional approval would be required, and environmental studies-associated mitigation, if applicable, would be needed.

As of May 2008, land swap agreements have reportedly been agreed to in principal by the KCC, the State of Alaska, and the U.S. Fish and Wildlife Service, but approval of the project awaits Congressional action, where debate over the project has proven to be contentious. Even if the project, which is being contested due to environmental concerns, is swiftly approved, environmental studies requirements will push the actual construction of the project well into the future.[39]

In either its current configuration, or as an all-road system, such a link theoretically eliminates 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 at a time, several times per year, but in practice the hovercraft is now (2008) only used on an emergency or special occasion basis. 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

[39] While enjoying widespread support in Cold Bay and at the AEB level, the road link project was publicly opposed by the current [2008] municipal administration in Cold Bay on reports televised statewide in May 2008. Local [King Cove] speculation regarding the reason for the opposition from Cold Bay was rooted more in potential competition for hunting grounds currently being exclusively used by Cold Bay residents for both personal use and outfitted for guided sport hunting, as opposed to, or in addition to, the publicly stated concerns over social impacts to Cold Bay and environmental impacts of a roadway running through what is currently designated wilderness within the Izembek National Wildlife Refuge.

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). Further, local sources report that public safety would be improved through a greater ability to access timely medical evacuation flights.

The AEB is also currently (2008) in discussions with Alaska Airlines regarding potential restoration of jet service to Cold Bay, which would, in turn, substantially improve service to King Cove. According to senior AEB staff, the Alaska Airlines jet that provides service on a regular basis between Anchorage and Adak overflies Cold Bay 3 days per week. According to AEB staff, the carrier is permitted an interim stop under the terms of their contract for the Adak run, which could take place in Cold Bay, facilitating the flow of passengers and freight to local communities, including King Cove.

2.4 KODIAK

The community of Kodiak, located near the northeastern end of Kodiak Island in the Gulf of Alaska, is 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 National Wildlife Refuge encompasses nearly 1.9 million acres on Kodiak and Afognak islands, and the Alaska Maritime National Wildlife Refuge, which includes the Barren Islands in the northernmost portion of the KIB as well as some tidelands and submerged lands in and around the city of Kodiak itself,[40] also has a significant presence in the Kodiak region.

The climate of Kodiak Island has a strong marine influence with moderate precipitation, occasional high winds, and frequent cloud cover and fog. Severe storms may occur year-round and are most 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.

2.4.1 Overview

Kodiak's identity is that of a fishing community. Through time, both its fishermen and processors have developed an engagement in and dependency upon many different fisheries. That is, while some fishermen and plants do specialize, many participants display a wide diversification in their fishery operations.

Commercial fish processing in the Kodiak region began on the Karluk spit in 1882. Not long after that, canneries[41] 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 also 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 canneries processed 90 million pounds of crab in 1966. In the following years, there was some growth within the sector; for example, one new shoreplant was built in Kodiak in 1968.

Declining harvest levels, however, prompted several shoreplants 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 Islands (BSAI) king crab. This move also diverted

[40] Precise federal ownership/management of tidelands in and around Kodiak is matter of contention. This includes lands currently utilized for seafood processing.

[41] The term "cannery" is still commonly used in Kodiak to refer to shore-based seafood processors, regardless of product form actually produced. This term appears to be more commonly used in Kodiak than in some of the other communities profiled.

some of the crab that had previously been taken to Kodiak for processing, and the number of shoreplants in Kodiak declined by more than half. 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.

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 shoreplants. 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 fishery landings increased, and the rate of return for individual shoreplants 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 the early 1980s. Waters around Kodiak still produce Tanner and Dungeness crab fisheries, and Kodiak shoreplants process these species in addition to deliveries of crab they receive from boats returning from the Bering Sea fishery.

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 shoreplants 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 shoreplant 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.

The provisions of the Magnuson Act of 1976 gradually expelled the foreign fleets capitalizing on the groundfish fishery within the Gulf of Alaska Exclusive Economic Zone, while American boats and processors entered the fishery. By the late 1970s a few Kodiak shoreplants, 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. However, 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 shoreplants relative to their normal operating capacity. 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 American Fisheries Act of 1998 (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 toward 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) as measured by local fleet size. 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 multispecies, multigear 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 Individual Fishing Quotas (IFQs) have increased the cost and perhaps reduced the possibility for such versatility. Kodiak fishermen greatly value having options and making their own decisions regarding a diversified fishing strategy. 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 or the recent proposed management alternatives directed toward rationalizing various fisheries are generally quite clear to them.

Though commercial fishing remains a central element in the underpinning of the local economy, Kodiak's economy has become increasingly diversified. The local United States Coast Guard (USCG) installation is the largest in the United States, and although relatively self-sufficient in some respects, it also contributes a great deal to the local economy in many ways, with approximately 1,300 uniformed and civilian employees, along with 1,700 dependents. 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 USCG personnel living off-base. The housing market, however, is currently softer than it has been in the collective memory of most Kodiak residents, due at least in part to a general downturn in the fishing industry. In the decade from 1987 through 1996, wholesale value of seafood processed in Kodiak ranged from roughly $200 million and up on an annual basis; from 1997 to 2006 this value only reached $100 million in 2 years (1999 and 2006). 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 long-term 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 and associated activities, 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.

2.4.2 Community Demographics

Kodiak is a large community by Alaska standards and is the seventh largest community in the state in terms of population.[42] Accompanying this size is a relatively diversified economy compared to other fishing communities in the southwestern part of the state. In terms of direct employment in the fishery being the overriding factor in residency decisions, the population of Kodiak could be viewed as less directly tied to the fishing economy than, for example, is the case for Unalaska, Akutan, or King Cove. Much of the economic diversity seen in Kodiak, however, links back to commercial fisheries in one way or another, with commercial fishing underpinning much of the apparent diversity, generating secondary and indirect employment, and otherwise driving a wide range of related activities. For example, there is a considerable U.S. Coast Guard presence in the community. While not a direct fisheries activity, the base would not exist in Kodiak if it were not driven by commercial fishing-related demands.

2.4.2.1 Total Population

Table 2.4-1 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 at that time, however, and most were in Kodiak. Based on present conditions, it can be assumed that most of the difference (whatever its "true" value) represented

[42] The six largest communities in Alaska, in order, are Anchorage, Juneau, Fairbanks, Sitka, Ketchikan, and Kenai. There are two different basic types of local governance in these communities: Anchorage, Juneau, and Sitka are unified Home Rule Municipalities (i.e., unified city/boroughs), while Fairbanks, Ketchikan, and Kenai, like Kodiak, are Home Rule Cities (Kodiak Chamber of Commerce 2004).

people living in the area of, but outside of the city limits of, Kodiak (Linda Freed, personal communication 2001[43]). This would account for a good deal of the sharp increase between 1950 and 1960 of the population of the "greater city of Kodiak" (Table 2.4-1).

Table 2.4-1. 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	8,410	999	9,409
1980	4,756	8,842	1,097	9,939
1990	6,365	11,610	1,699	13,309
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.

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. A reported trend in recent years is an increase in the "unincorporated" population and a simultaneous, if slight, decrease in population for the city of Kodiak proper, as the city is considered essentially built out. An additional 1,840 people live on the USCG base, which most people also consider as part of the greater city of Kodiak area. Together these three populations include 12,211 individuals, or about 86 percent of the KIB's total 2000 population of 13,913. This three-population greater city of Kodiak figure does not include the residents of Chiniak or Womens Bay (which together comprise about 5 percent of the KIB's population), although from a number of perspectives it would be logically consistent to include them as well, based on the closeness of social, employment, and economic ties. The calculated greater city of Kodiak percentage of the total borough population has varied from 84 to 90 percent since the formation of the KIB. Table 2.4-2 provides 2005 population estimates for communities and named places within the KIB. While specific relationships vary by community, in general, Kodiak acts as a transportation, administrative, and economic hub for the borough.

[43] Freed, Linda, Director of Community Development, Kodiak Island Borough, June 2001.

Table 2.4-2. Kodiak Island Borough Population Estimates, 2005

Community or Area	Estimated Population
City of Kodiak	6,088
Akhiok	41
Chiniak	52
Larsen Bay	97
Old Harbor	200
Ouzinkie	191
Port Lions	220
Karluk	27
Womens Bay	703
USCG Base	1,975
Other Areas	4,044
Total Borough	13,638

Source: Kodiak Chamber of Commerce Kodiak Community Profile and Economic Indicators, 2007 (based on Alaska Department of Labor data).

Kodiak, like other fishing communities, experiences seasonal population fluctuations that correspond to peak harvest and processing periods. In Kodiak, this has historically been most evident in summer (primarily July and August). With the development and growing importance of groundfish processing, however, Kodiak processors have increasingly tried to operate year-round (or nearly year-round) and have done so in recent years with a predominantly local labor force, for a number of reasons, including increased costs of transporting, housing, feeding, and training temporary employees. These trends have had the effect of minimizing seasonal population fluctuations tied to fishing *per se*, and the growth of the nonfishing portion of the economy has also tended to smooth out overall population peaks and valleys. These dynamics are discussed below in terms of the processing and harvesting labor force.

2.4.2.2 Ethnicity

Kodiak is a complex community in terms of the ethnic composition of its population. Sugpiaqs (Koniags) were the original inhabitants of the area, but in the late 1700s contact with Russians, their diseases, and their sea otter hunting and trading operations had devastating effects on the Native population and culture. (Alutiiq has survived as the present-day Native language, however, and a number of developments in the late twentieth century, such as the Alaska Native Claims Settlement Act of 1971 and the Alaska National Interest Lands Conservation Act of 1980, among others, have fostered more economic and political autonomy for Alaska Natives in the region and elsewhere in the state.) Alaska, including 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 of persons of other minorities, most of whom were at least initially associated with fish processing employment.

Table 2.4-3 presents time series information on ethnicity for the city of Kodiak and Table 2.4-4 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 greater city of Kodiak area 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 residents of Filipino or Asian and Pacific Islander descent 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 and, further, that fish processing jobs are being used as an entry-level means of moving to Kodiak before individuals then take employment in other sectors of the local economy. The Alaska 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).

Table 2.4-3. Ethnic Composition of Population Kodiak City: 1970, 1980, 1990, and 2000

Race/Ethnicity	1970		1980		1990		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White	3,094	81.7%	3,337	71.2%	4,028	63.3%	2,939	46.4%
Black or African American	44	1.2%	26	0.5%	47	0.7%	44	0.7%
Native American/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	3,733	100%	4,490	100%	6,365	100%	6,334	100%
Hispanic***	NA	-	196	4.2%	403	6.3%	541	8.5%

* 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).

Source: U.S. Census Bureau 1990, 2000.

Table 2.4-4. Ethnic Composition of Population Kodiak Island Borough: 1980, 1990, and 2000

Race/Ethnicity	1980		1990		2000	
	Number	Percent	Number	Percent	Number	Percent
White	7,046	70.9%	9,289	69.8%	8,304	59.7%
Black or 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	9,735	100%	13,309	100%	13,913	100%
Hispanic***	204	2.0%	669	5.0%	848	6.1%

* 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).
Source: U.S. Census Bureau 1990, 2000.

As noted earlier, the greater city of Kodiak area acts in many ways as a hub community for other communities within the borough. Most of the outlying communities within the borough have predominately Alaska Native populations, as shown in Table 2.4-5. As may be seen in the table, in 2000 the city of Kodiak and Womens Bay (about 8 miles from the city of Kodiak, and close to the Kodiak Station USCG base) had populations around 12 to 13 percent Alaska Native. Chiniak (road connected to the city of Kodiak, and arguably closely linked to that community in a number of ways) and the Kodiak Station USCG base (again, closely associated with the greater city of Kodiak itself) were around 3 to 4 percent Alaska Native. All other communities in the borough are outlying villages without road connections and, with one exception, were predominantly (between 64 and 96 percent) Alaska Native (and five of these six communities were about 80 percent or greater Alaska Native).

Table 2.4-5. Kodiak Island Borough Population and Alaska Native Percentage of Population by Place, 2000

Community or Area	Population	Percent Alaska Native
City of Kodiak	6,334	13%
Womens Bay	690	12%
Chiniak	50	4%
Kodiak Station (USCG)	1,840	3%
Aleneva	68	2%
Akhiok	80	94%
Karluk	27	96%
Larsen Bay	115	79%
Old Harbor	237	86%
Ouzinkie	225	88%
Port Lions	256	64%
Other Areas	3,991	16%
Total Borough	13,913	17%

Source: Alaska Dept of Commerce, Community and Economic Development, 2004.

The single exception to this pattern (predominantly non-Native population named places being confined to the road connected to the greater city of Kodiak area and predominantly Alaska Native communities being the non-road-connected outlying communities) is the unincorporated community of Aleneva. This is one of Alaska's "Russian Old Believer" (*Starovery*) communities, whose population traces their ancestry through descendants of Orthodox Russians who refused to accept church reforms of the mid-seventeenth century and who first came to the New World seeking religious freedom following the Bolshevik Revolution of 1917. Aleneva is located on the coast of Afognak Island in the Raspberry Strait, north of Kodiak. The oldest (dating from the late 1960s) and best known of Alaska's Russian Old Believer communities are on the Kenai Peninsula, but Aleneva has also proven to be a favored location for the degree of voluntary social isolation often sought by this group. (This group is relevant for characterization of commercial fishing in Kodiak as Old Believers in Alaska in general are often commercial fishermen and builders of commercial fishing boats. Aleneva fishermen primarily longline for cod and halibut with 50-foot [and under] vessels and sell their catch to processors in Kodiak.)

2.4.2.3 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 2.4-6). The KIB as a whole shows an analogous imbalance over the 1990 through 2000 period (Table 2.4-7). This is a common characteristic of communities where at least one major economic sector disproportionately employs single members of one sex. In Kodiak, the fishing industry has historically employed many single males, both as harvesters and processors, and this has involved a substantial amount of labor migration to the community. Although this population has apparently become more resident and less transient than in the past, evidently this has not greatly affected the overall population's male-to-female ratio. Population data suggest that single males still disproportionately migrate to Kodiak for at least some period of time, and/or perhaps that females may tend to migrate out more than do males. The North Pacific Fishery Management Council (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 percent male, 46 percent female), 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 disproportionately composed of single male workers and a smaller percentage of family units with children. More recent data suggest that this pattern has been changing over the intervening years, however, as the processing workforce has become more residential and less transient through time, and as individuals who initially came to Kodiak for processing work are moving into employment in other economic sectors and raising families in the community.

Table 2.4-6. Population by Age and Sex, Kodiak City: 1970, 1980, 1990, and 2000

	1970		1980		1990		2000	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
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%	6,365	100%	6334	100%
Median Age	NA		NA		NA		33.5 years	

Source: U.S. Census Bureau 1990, 2000.

Table 2.4-7. Population by Age and Sex, Kodiak Island Borough: 1990 and 2000

	1990		2000	
	Number	Percent	Number	Percent
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. Census Bureau 1990, 2000.

One way of looking at changes in population dynamics by age is through school enrollment figures. Table 2.4-8 provides information on enrollments in schools in the greater city of Kodiak area from 1997 through 2003. Other borough schools are found in six operational rural areas (Akhiok, Larson Bay, Port Lions, Ouzinkie, Old Harbor, and Karluk[44]) and two logging camps (Danger Bay and Big Sandy Lake, although the latter was not open during the 2007–2008 school year). As shown, total enrollments have fluctuated on a year-to-year basis but have remained relatively stable over this period of time. In contrast to the town schools, overall KIB School District enrollments are down in recent years, which district personnel attribute to a combination of smaller families and the growth in the number of religious-affiliated private schools on the island.

Tables 2.4-9a and 2.4-9b provide information on school enrollments by student ethnicity for the 2002–2003 and 2007–2008 school years. Some changes are evident between these years, with the proportion of Caucasian students decreasing, and the proportions of Asian and Hawaiian/Pacific Islander and Hispanic students increasing. Alaska Native, American Indian, Black/African American, and multi-ethnic students remained proportionally about the same. As the local Asian/Pacific Islander population in general was originally associated with commercial fishing/processing opportunities in the community, the school enrollment data reinforce the noted trend of movement out of processing and settling in to become more fully engaged in the community, raise families, and participate in various other sectors of the community economy. This is one area where large-scale population change may be traced directly back to commercial fishing activities. The same may be said for Kodiak's Caucasian population, but with a longer time line and many more intervening variables, this is not as directly apparent as is the case with the Asian/Pacific Islander population. Localized and age demographic variation is also evident

[44] There have been recent changes in school locations based on shifting demographic patterns: the school in Karluk opened for the 2005-2006 school year ; the school at Chiniak closed in the 2007-2008 school year.

Table 2.4-8. Kodiak Town School Student Enrollments, by School Year, 1997–1998 through 2007–2008

School	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003	2003–2004	2004–2005	2005–2006	2006–2007	2007–2008
East Elementary	429	432	467	467	451	463	449	341	332	320	340
Main Elementary	267	258	253	257	262	264	277	291	264	269	261
North Star Elementary	266	272	313	325	327	297	262	298	328	308	327
Peterson Elementary	358	328	381	334	299	273	252	301	317	323	306
Kodiak Middle School	435	408	357	369	425	413	416	377	369	348	363
Kodiak High School	672	703	689	736	766	785	785	830	839	819	785
Total	2,427	2,401	2,460	2,488	2,530	2,495	2,441	2,438	2,449	2,387	2,382

Note: "Town" schools include those in and around the city of Kodiak, but not the outlying villages within the Kodiak Island Borough School District. Peterson Elementary School is located on the U.S. Coast Guard base.
Source: Derived from Kodiak Island Borough School District annual "Ethnicity by School and Gender" spreadsheets.

Table 2.4-9a. Ethnic Enrollment by School, Kodiak Town Schools, 2002–2003 School Year

School	Alaska Native	American Indian	Asian/ Pacific Islander	Black/ African American	Caucasian	Hispanic	Mixed	Total
East Elementary	112	4	98	0	210	31	8	463
Main Elementary	15	3	159	0	28	53	6	264
North Star Elementary	61	9	44	3	163	13	4	297
Peterson Elementary	14	3	14	7	220	11	4	273
Kodiak Middle School	63	8	112	4	198	23	5	413
Kodiak High School	116	17	186	12	423	28	3	785
Total Enrollment	381	44	613	26	1,242	159	30	2,495
Percent of Total Enrollment	15.27%	1.76%	24.57%	1.04%	49.78%	6.37%	1.20%	100.00%

Note: "Town" schools include those in and around the city of Kodiak, but not the outlying villages within the Kodiak Island Borough School District. Peterson Elementary School is located on the U.S. Coast Guard base.
Source: Derived from Kodiak Island Borough School District annual "Ethnic Enrollment by School" spreadsheets.

Table 2.4-9b. Ethnic Enrollment by School, Kodiak Town Schools, 2007–2008 School Year

School	Alaska Native	American Indian	Asian & Hawaiian/ Pacific Islander	Black/ African American	Caucasian	Hispanic	Multi-Ethnic	Total
East Elementary	94	8	70	1	140	25	2	340
Main Elementary	14	3	180	1	30	29	4	261
North Star Elementary	78	4	62	2	157	20	4	327
Peterson Elementary	14	2	36	13	200	29	12	306
Kodiak Middle School	61	6	96	3	161	36	0	363
Kodiak High School	106	12	194	4	393	69	7	785
Total Enrollment	367	35	638	24	1,081	208	29	2,382
Percent of Total Enrollment	15.41%	1.47%	26.78%	1.01%	45.38%	8.73%	1.22%	100.00%

Note: "Town" schools include those in and around the city of Kodiak, but not the outlying villages within the Kodiak Island Borough School District. Peterson Elementary School is located on the U.S. Coast Guard base. "Asian" and "Hawaiian/Pacific Islander," separate in the October 2007 count, are combined in this table to provide comparability to earlier years.
Source: Derived from Kodiak Island Borough School District "Ethnicity by School and Gender" spreadsheet 2007.

in these data. For example Asian and Hawaiian/Pacific Islander children make up almost 70 percent of the student population of Main Elementary, but only about 20 percent of either East or North Star Elementary, and roughly 25 percent of the student populations of both Kodiak Middle School and Kodiak High School. Peterson Elementary, on the USCG installation, has over half of the Black/African American students of any age in all of the Kodiak city area schools.

Beyond the numbers seen in the previous tables, the specific ethnic make-up of the school district has reportedly changed over the years even within specific census categories. In the late 1970s, according to district personnel, there were numerous Korean and Japanese students, but their numbers declined in subsequent years as the Filipino student population grew. The school provides bilingual education and carries out the federal Migrant Education Title I-C Program, a program that supports educational instruction for families who must move to follow short-term or temporary employment opportunities. Under the Migrant Education Program, the district

receives federal funds to provide instruction to children of families that fish for long periods of time off-site, to children living with parents in logging camps, and to subsistence hunters. This program has little impact in the city of Kodiak itself, however, as processing plant employees are not included in this program and, as most fishermen do not travel with their children, rarely are fishing families the beneficiaries of this program.

The schools in Kodiak have, however, felt the impact of processing worker-related family migration in other ways. One way includes processing workers being sent to plants outside Kodiak during peak seasons. Another is when workers leave for a month (typically December) when the plants slow down or close, often taking advantage of the chance to visit family in their home countries. According to district personnel, it is not unusual for 2 or 3 students in a classroom of 22 to 25 total students to be gone for extended periods of time, disrupting their education. More recently, the district has taken a more strict interpretation of enforcing state requirements that mandate dropping from enrollment those students who are gone for more than 10 days. As a result, according to district personnel, at present if the primary bread-winner in the family must leave the community for a long period of time, it is now more typical for children not to accompany the parent and remain in school in Kodiak.

2.4.2.4 Housing Types and Population Segments

Historically, group housing in Kodiak was largely associated with the processing workforce, but this is no longer common, and certainly not to the nearly exclusive degree seen in major Southwest Alaska processing communities. This is due both to changes in labor migration patterns as well as to the greater complexity of the institutional base and range of housing types in Kodiak. As shown in Table 2.4-10, only 6 percent of the population lived in group housing in 1990, and this figure dropped to 2 percent in 2000. This is a much lower percentage of population residing in group quarters than in Unalaska, Akutan, and King Cove (as well as Sand Point) and is consistent with a processing workforce more heavily drawn from the local labor pool than is the case in these other communities.

Table 2.4-10. 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. Census Bureau 1990, 2000.

Table 2.4-11 provides information on group housing and ethnicity for Kodiak for 1990, and similar information for 2000 is presented in Table 2.4-12. In 1990, while there was a significant difference between the group quarters and non-group quarters demographics (with the group quarters population being a higher minority group than the community population as a whole), the differences are not as sharp in general or for particular groups as seen in the Aleutian region communities. A similar pattern is seen in the 2000 data; however, the small numbers of persons involved make any conclusions about the proportionality or trends of change between groups tenuous.

Table 2.4-11. 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 or African American	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. Census Bureau 1990.

Table 2.4-12. Ethnicity and Group Quarters Housing Information, Kodiak, 2000

Race/Ethnicity	Total Population		Group Quarters Population**		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	2,939	46.40%	78	53.42%	2,861	46.23%
Black or African American	44	0.69%	4	2.74%	40	0.65%
Alaska Native/Native American	663	10.47%	19	13.01%	644	10.41%
Native Hawaiian/Other Pacific Islander	59	0.93%	4	2.74%	55	0.89%
Asian	2,010	31.73%	28	19.18%	1,982	32.03%
Some Other Race	276	4.36%	8	5.48%	268	4.33%
Two or More Races	343	5.42%	5	3.42%	338	5.46%
Unknown	0	0%	0	0%	0	0%
Total	6,334	100.00%	146	100.00%	6,188	100.00%
Hispanic*	541	8.54%	17	11.64%	526	8.50%
Total Minority Population	3,565	56.28%	76	52.05%	3,489	56.38%
Total Non-Minority Population (White Alone, Not Hispanic or Latino)	2,769	43.72%	70	47.95%	2,699	43.62%

* "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).

** Unlike the other fishing community profiles in this document, not all persons in group quarters in Kodiak fall into the "noninstitutionalized population/other noninstitutionalized group quarters" census category. A total of 19 persons in group quarters in Kodiak are considered to be part of an "institutionalized population." In this case all are listed as residents of nursing homes.

Source: U.S. Census Bureau 2000.

Apart from group and non-group housing distinctions, household type in Kodiak varies by population segment, although systematic information of these patterns is not available. In general, however, 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 to take advantage of very strong employment opportunities. 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 reportedly 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 state subsidizing the mortgage rate one full percentage point for housing outside of the city of Kodiak.[45] Further, undeveloped land within the current city limits is somewhat scarce as the city builds out.

Information from interviews for previous projects 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 have largely 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. Much of the processing labor force is on-call, working long shifts during the busy periods and slowing down to a smaller "core" group of employees during the slower seasons. While some plants still maintain bunkhouses for a seasonal influx of transient workers, this is less common than in the past. While one processor's workforce is unionized, the workforce at the other plants run the gamut from those that are steady, receive benefit packages, and are maintained throughout the year, to those that are much less predictably provided on-call hourly wages. There are numerous local people who work in the processing plants on a part-time basis, but the pay scale associated with most processing work requires a relatively large number of hours to support a local resident compared to other types of employment.

Other than for peak processing periods (with one exception), virtually all Kodiak processing labor is local in the sense of having local housing arrangements, if not a long-term commitment to the community. 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 USCG 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

[45] According to KIB staff, the incentive to build outside of the city itself is because the State of Alaska's home loan program tends to favor areas that are defined as rural. Unincorporated borough lands meet this definition; therefore, residents can obtain longer-term, low-interest loans than if they live inside Kodiak city boundaries. According to City staff, the state will further subsidize the mortgage rate another full percentage point for newly constructed energy-efficient homes.

but not equivalent amount of new and better housing being erected on-base. Most USCG personnel have the option of living off-base if they prefer, so this has increased the local demand for housing.

Table 2.4-13 displays basic information on community housing, households, families, and median household and family income in 2000. As shown, the city of Kodiak is above the borough income averages. For example, median family income in Kodiak itself is about 3 percent higher than the borough as a whole. Compared to all communities in the region, the city of Kodiak places at the upper end of the range. In 2000, the highest median family income in the region was in the community of Chiniak, with a figure of $75,067, while the lowest figure was $19,167 for Karluk.

Table 2.4-13. Selected Household Information, Selected Kodiak Region Communities, 2000

Community	Total Housing Units	Vacant Housing Units	Total House-holds	Average Persons per House-hold	Median House-hold Income	Family House-holds	Average Family Size	Median Family Income
Kodiak	2,255	259	1,996	3.1	$55,142	1,362	3.64	$60,484
Kodiak Island Borough	5,159	735	4,424	3.07	$54,636	3,257	3.52	$58,834

Source: U.S. Census Bureau 2000.

2.4.3 Local Economy and Links to Commercial Fisheries

Despite the relative diversification of Kodiak's economy, direct fishery-related employment is still a very large component of total local employment. Excluding the USCG, 4 of the top 10 employers in Kodiak in 2003 were seafood processors, and 3 more were listed in the top 20 employers (Table 2.4-14a). As of 2006, again excluding the USCG, 5 of the top 10 local employers were seafood processors and another local seafood processor was in the top 20 (Table 2.4-14b). Additionally, a catcher/processor listed as homeported in Kodiak (Seafreeze Alaska) and a processor operating out of Larsen Bay (Icicle Seafoods) were in the top 20 local employers. The list does not include Western Alaska Fisheries, reportedly because its Kodiak employment numbers are grouped with employment in other communities and reported elsewhere due to company structure. Otherwise, according the local chamber of commerce, Western Alaska Fisheries would likely also appear in the list of top 10 local employers.

It should be further noted that while Kodiak's economy is apparently far more diversified than those of the other fishing communities profiled in this document (Unalaska, Akutan, and King Cove), much of the nondirect economic activity in Kodiak relies to a greater or lesser degree on fishing activity as a base. The education, service and retail, and government sectors, including the USCG, are all very important for Kodiak. In this regard, interviews with some support providers who in the past have been primarily direct fisheries-oriented indicate that more recently customers from other sectors, including USCG, tourism, government, and education, have become significant in terms of the sale of outboard motors, boats, and similar marine-oriented items than in the past. As one such provider remarked, one-third of the USCG base

Table 2.4-14a. Top 20 Kodiak Employers, 2003

Rank	Employer*	Employment
1	Kodiak Island Borough School District	435
2	North Pacific Processors (APS)	264
3	Trident Seafood Group	200
4	Providence Kodiak Island Medical Center	190
5	City of Kodiak	159**
6	Wal-Mart Associates	147
7	Kodiak Area Native Association	132
7	Ocean Beauty Seafoods	132
9	Western Alaska Fisheries	125
10	Homeland Security	123
11	Safeway Inc.	119
12	University of Alaska Anchorage	84
13	Kodiak Inn	82
14	Alaska Department of Fish & Game	77
15	Brechan Enterprises	74
15	Global Seafoods	74
15	International Seafoods	74
18	Ki Enterprises (McDonald's)	72
19	Kodiak Electric Association	47
19	Alaska Fresh Seafood Inc.	47
19	Ben A. Thomas Inc. Alaska Division	47
20	Kodiak Island Housing Authority	43

* USCG and commercial fishermen are not included in this table.

** The City of Kodiak figure provided is apparently no longer accurate. According to the City Manager (personal communication 3/2/05), the city has "approximately 115 (non-seasonal) FTE's."

Source: Kodiak Chamber of Commerce, "Kodiak Community Profile and Economic Indicators," 1st Quarter 2005 revision.

Table 2.4-14b. Top 20 Kodiak Employers, 2006

Rank	Employer*	Employment
1	Kodiak Island Borough School District	450
2	Trident Seafoods Corporation	314
3	North Pacific Seafoods, Inc. [Alaska Pacific Seafoods]	234
4	Providence Hospital	210
5	Ocean Beauty Seafoods	201
6	International Seafoods	199
7	City of Kodiak	162
8	Safeway, Inc.	129
9	Global Seafoods	120
10	Department of Transportation	118
10	Wal-Mart Associates	118
12	Kodiak Area Natives Association	89
13	University of Alaska Anchorage	80
14	Alaska Department of Fish & Game	73
14	Ki Enterprises (McDonald's)	73
16	Seafreeze Alaska LP	66
17	Icicle Seafoods, Inc.	54
18	Kodiak Inn, Inc.	50
19	Alaska Fresh Seafood Inc.	45
19	Brechan Enterprises	45
19	Kodiak Island Housing Authority	45

* USCG and commercial fishermen are not included in this table.

Source: Kodiak Chamber of Commerce, "Kodiak Community Profile and Economic Indicators," 4th Quarter 2007 revision.

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 and more likely to be purchased by "Coasties" (USCG personnel) or other Kodiak residents than in the past. Again, however, with the exception of the tourism industry, a large reason the other sectors are as well developed as they are is related back to servicing, supplying, or otherwise directly or indirectly supporting the fishing industry. As previously noted, this includes the local USCG presence, with their primary local focus on fisheries activities.

Kodiak's economy does follow annual cycles, which is attributable, in part, to the continuing importance of the commercial fishing industry. The fishing industry, in turn, responds to openings and closings of commercial seasons (and, of course, harvest levels and price). The locally important fishing seasons for Kodiak are well summarized on an annual "Kodiak Fisherman's Calendar" poster that is published by the Kodiak Daily Mirror newspaper and is commonly found in the community. Information from this poster has been adapted for use in Table 2.4-15.

Table 2.4-15. Kodiak Fisherman's Calendar, 2008

January 1	Cod "A" season in GOA and BSAI for fixed gear opens
January 1	Black rockfish — jig in Kodiak and South Peninsula
January 15	Kodiak Tanner crab season opens
January 15	Bering Sea Snow crab (opilio) opens
January 20	Pollock "A" season opens
January 20	Cod "A" season for trawl gear opens
March 1	Chignik state-waters Pacific cod opens
March 10	Pollock "B" season opens
TBA	South Peninsula state-waters Pacific cod fishery opens seven days after the Western GOA federal fishery closes
TBA	Kodiak state-waters Pacific cod fishery opens seven days after the Central GOA federal fishery closes
TBA	Halibut and sablefish IFQ fisheries opens (closes mid-November)
March 20–22	ComFish Alaska
April 15	Kodiak sac roe herring fishery opens (closes June 30)
May 1	Rockfish pilot program begins for trawl gear (closes November 15)
May 1	Dungeness crab Westward region, except south end of Kodiak, opens
Mid-May	Copper River sockeye opens (exact date TBA)
Emergency order	Chignik district shrimp opens
June 1	Tentative date Kodiak salmon season opening (closes October 31)
June 15	Dungeness crab for Kodiak south end opens
June 15	Kodiak district shrimp opens
Mid-June	Kodiak early run traditionally peaks
June 24	Gillnet Aleutian Islands bait herring opens
July 1	Kodiak, Yakutat, PWS and Bering Sea scallop season opens
July 4	Bristol Bay sockeye season traditionally peaks
July 6	Kodiak pink salmon fishery opens
July 15	Seine Aleutian Islands bait herring opens
August 15	Aleutian Islands brown king crab opens

Table 2.4-15. (continued)

August 15	Scallop fishing in Kamishak District opens (closes October 31)
August 25	Pollock "C" season opens
Late August	Kodiak late run traditionally peaks
September 1	Cod "B" season for fixed gear and trawl gear opens
October 1	Kodiak and Peninsula sea urchin, sea cucumber dive fisheries open
October 1	Kodiak food and bait herring season opens
October 1	Pollock "D" season opens
October 15	Bristol Bay red king crab, snow crab, and Bering Sea Tanner crab opens
November 15	Halibut and sablefish IFQ fisheries close
November	FishExpo in Seattle opens TBA
December 31	State pot and jig cod fishery officially closes
December 31	Lingcod officially closes

Note: All dates are subject to change pending fisheries management regulations.
Source: Adapted from Kodiak Daily Mirror flyer.

Table 2.4-16 displays the total volume of fish landed at Kodiak for 1984 through 2006. Kodiak has consistently ranked in the top four U.S. ports in terms of value of fish landings and in the top seven in terms of volume of landings over this period. As shown, there is considerable variability in absolute figures from year to year as, for example, the value of landings in Kodiak declined by over one-third between 1999 and 2002, but have since rebounded, reaching levels in 2006 similar to those seen in 1999 (in terms of absolute dollars, not inflation adjusted dollars). Among U.S. ports over the most recent 3 years shown (2004–2006) Kodiak has ranked behind Unalaska/Dutch Harbor, Alaska, Reedville, Virginia, and either Intracoastal City or Empire-Venice, Louisiana, in terms of volume of catch landed, and New Bedford, Massachusetts, Unalaska/Dutch Harbor, and, in the case of 2004 only, Hampton Roads Area, Virginia, in terms of value of catch landed.

Table 2.4-16. Volume and Value of Fish Landed at Kodiak, 1984–2006

	Volume		Value		
Year	Millions of Pounds	U.S. Ranking	Millions of Dollars	U.S. Ranking	Average Value ($/lb)*
1984	69.9	7	113.6	2	1.63
1985	65.8	6	96.1	3	1.46
1986	141.2	7	89.8	3	0.64
1987	204.1	3	132.1	2	0.65
1988	304.6	3	166.3	1	0.55
1989	213.2	6	100.2	3	0.47
1990	272.5	3	101.7	3	0.37
1991	287.3	4	96.9	3	0.34
1992	274.0	3	90.0	3	0.33
1993	374.2	2	81.5	3	0.22
1994	307.7	2	107.6	2	0.35
1995	362.4	2	105.4	2	0.29
1996	202.7	5	82.3	3	0.41
1997	267.5	6	88.6	3	0.33
1998	357.6	5	78.7	3	0.22

Table 2.4-16. (continued)

Year	Volume		Value		Average Value ($/lb)*
	Millions of Pounds	U.S. Ranking	Millions of Dollars	U.S. Ranking	
1999	331.6	6	100.8	3	0.30
2000	289.6	6	94.7	3	0.33
2001	285.5	6	74.4	3	0.26
2002	250.4	4	63.3	4	0.25
2003	262.9	5	81.5	3	0.31
2004	317.4	4	94.0	4	0.30
2005	337.2	4	95.8	3	0.28
2006	332.8	4	101.4	3	0.30

*Average value derived from volume and value data.
Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics and Economics Division, Silver Spring, MD (accessed through NMFS Website http://www.st.nmfs.noaa.gov/st1/commercial/landings/lport_hist.html), 2004 and 5/27/08.

Table 2.4-17a lists detailed information on total volume and value of fish landings for Kodiak for 2003 by species or species group. It is important to note that individual fisheries fluctuate from year to year, and no single year should be taken as representative of other years. Nevertheless, the 2003 data represented information from the most recent full year for which data are available at the time of the pre-BSAI implementation study (2004). Clearly, the value of landings in Kodiak are dominated by halibut, salmon, and Pacific cod, which together accounted for 68 percent of the total value of all species landed. These three species (or species groups) accounted for between 20 and 27 percent of total value each, while no other species accounted for more than about 10 percent of the total. Sablefish, pollock, and Bristol Bay red king crab, the next three most important species after halibut, salmon, and Pacific cod, accounted for 10 percent, 8 percent, and 6 percent of the overall total, respectively. No other species accounts for more than about 2 percent of the total. Salmon, pollock, and Pacific cod accounted for greatest volume of fish landed, with these three high volume species (or species complex) comprising over three-quarters of all landings by weight. 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 2.4-17a. Volume and Value of Fish Landed at the Port of Kodiak, by Species, 2003

Species	Volume Landed (Pounds) [1]	% of Total Volume	Ex-vessel Value (dollars)	% of Total Value
Halibut [2]	7,891,904	2.88%	$22,407,370	27.03%
Salmon	83,646,938	30.49%	$17,890,468	21.58%
Pacific Cod	52,935,977	19.29%	$16,410,153	19.79%
Sablefish	2,405,403	0.88%	$8,034,046	9.69%
Pollock	73,136,066	26.66%	$6,582,246	7.94%
Bristol Bay Red King Crab	879,269	0.32%	$4,712,882	5.68%
Other Crab	540,173	0.20%	$1,299,915	1.57%
Rock Sole	8,123,946	2.96%	$1,137,352	1.37%
Herring	4,361,882	1.59%	$1,086,270	1.31%

Table 2.4-17a. (continued)

Species	Volume Landed (Pounds) [1]	% of Total Volume	Ex-vessel Value (dollars)	% of Total Value
Flatfish [3]	14,264,333	5.20%	$747,899	0.90%
Dungeness Crab	472,573	0.17%	$704,134	0.85%
Rockfish [4]	10,982,826	4.00%	$700,627	0.85%
Pacific Ocean Perch	11,507,301	4.19%	$575,365	0.69%
Flathead Sole	2,798,544	1.02%	$251,869	0.30%
Sea Cucumbers	153,903	0.06%	$210,847	0.25%
Black Rockfish	83,854	0.03%	$31,865	0.04%
Octopus	64,875	0.02%	$27,896	0.03%
Weathervane Scallops	NA	--	NA	--
Bering Sea Snow Crab	NA	--	NA	--
Miscellaneous/other/unspecified (inc. shrimp and sea urchins) [5]	118,493	0.04%	$99,747	0.12%
Total	274,368,260	100.00%	$82,910,951	100.00%

[1] Represents pounds of product landed at the Port of Kodiak, including harvests from outside of the Kodiak management area (from Fish Ticket data).
[2] Halibut volume from NMFS Website and includes all landings in Kodiak regardless of where fish were harvested.
[3] Includes butter sole, yellowfin sole, starry flounder, Alaska plaice, and Greenland turbot.
[4] Includes northern, thornyhead, yelloweye, rougheye, shortraker, and dusky rockfish.
[5] 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, 2004 (from Alaska Department of Fish and Game).

Table 2.4-17b lists detailed information on total volume and value of fish landings for Kodiak for 2006 by species or species group. These data represent the most recent full-year data available. Clearly, the value of landings in Kodiak are dominated by salmon (30 percent), and Pacific cod (19 percent), pollock (13 percent) halibut (12 percent), which together accounted for 75 percent of the total value of all species landed. Sablefish accounted for about 8 percent of the total, while all species of crab combined accounted for a little over 6 percent of the total, and flatfish accounted for about 4 percent of the total. No other species or species complex accounted for more than 2 percent of the total but, as shown, several other groundfish species were relatively high-volume species locally, but accounted for a relatively small proportion of the total value landed, due to relatively low values per pound.

Table 2.4-17b. Volume and Value of Fish Landed at Port of Kodiak, by Species, 2006

Species	Volume Landed (pounds) [1]	% of Total Volume	Ex-vessel Value (dollars)	% of Total Value
salmon, Chinook	210,592	0.06%	$197,956	0.19%
salmon, sockeye	8,146,700	2.14%	$6,843,228	6.44%
salmon, coho	4,338,634	1.14%	$2,863,498	2.70%
salmon, pink	117,392,708	30.82%	$18,782,833	17.69%
salmon, chum	9,102,850	2.39%	$3,003,941	2.83%
halibut, Pacific[2]	3,454,834	0.91%	$13,085,725	12.32%

Table 2.4-17b. (continued)

Species	Volume Landed (pounds) [1]	% of Total Volume	Ex-vessel Value (dollars)	% of Total Value
herring, Pacific	5,624,729	1.48%	$618,720	0.58%
cod, Pacific (gray)	50,039,197	13.14%	$20,516,071	19.32%
pollock, walleye	101,523,425	26.65%	$14,213,280	13.39%
arrowtooth flounder	30,710,932	8.06%	$2,149,765	2.02%
black rockfish	214,151	0.06%	$85,660	0.08%
octopus	209,709	0.06%	$132,117	0.12%
perch, Pacific ocean	10,496,787	2.76%	$1,679,486	1.58%
squid	3,375,890	0.89%	$236,312	0.22%
sablefish (black cod)	2,467,618	0.65%	$8,834,073	8.32%
skates	3,099,190	0.81%	$688,156	0.65%
Rockfish[3]	6,878,056	1.81%	$1,124,548	1.06%
flatfish[4]	20,421,644	5.36%	$4,281,385	4.03%
crab[5]	3,215,170	0.84%	$6,851,290	6.45%
Total	380,922,816	100.00%	$106,188,044	100.00%

[1] Represents pounds of product landed at the Port of Kodiak, including harvests from outside of the Kodiak management area (from Fish Ticket data).

[2] Halibut pounds from NMFS website: http//www.fakr.noaa.gov/ram/ifqreports.htm and includes all landings in Kodiak regardless of where fish were harvested.

[3] Includes greenstripe, northern, thorneyhead, yelloweye, quillback, tiger, rosethorn, rougheye, shortraker, redbanded, dusky, yellowtail, sharpchin, harlequin, and blackgill rockfish.

[4] Includes dover sole, rex sole, butter sole, English sole, starry flounder, petrale sole, sand sole, Alaska plaice, and Greenland turbot.

[5] Includes Dungeness, red king, bairdi, and opilio crab.

Source: Adapted from Kodiak Chamber of Commerce, 2004 (from Alaska Department of Fish and Game).

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 Kodiak's fishing economy also spills over into other local economic sectors; other sectors, such as tourism-related businesses, have their own seasonal fluctuations. An estimated 76 percent of all visitors arrive during the summer months and visitor spending in fiscal year (FY) 2006 was estimated at $22.6 million (Kodiak Island Convention and Visitors Bureau 2007). In FY 2006, the combined City of Kodiak's and the KIB's room taxes equaled $180,542. Kodiak Chamber of Commerce data as compiled by the City of Kodiak Finance Department for total sale receipts, cannery receipts, boat harbor revenues, charter boat revenues, and retail sales all show pronounced seasonal fluctuations over time. The local timber industry is still a part of the overall regional economy, but it has declined substantially in recent years. Timber severance taxes were $347,424 in 1995, but only $17,013 in 2005, although they rebounded to $62,740 in 2006. There are a number of different niche sectors on the island, with one of the more unusual being the commercial space port/rocket launch facility run by the Alaska Aerospace Development Corporation, which has been operational since 1998.

According to the Kodiak Chamber of Commerce, in 2007 the state estimated the KIB's average monthly employment to be 5,745, excluding fish harvesting and the USCG. Other Chamber of Commerce figures put the USCG and other government entities as providing 35 percent of local employment, the seafood industry (including harvesting and processing) at about 27 percent, and retail trade/transportation/utilities at around 11 percent. No other sector accounted for more than

7 percent of local employment. Monthly unemployment ranged from 4.7 percent to 9.3 percent, due primarily to seasonal fishing employment fluctuations, with an average annual unemployment rate of 6.2 percent for the KIB as a whole in 2007 (Kodiak Chamber of Commerce 2007).

Table 2.4-18 displays data on employment and poverty for the city of Kodiak and the KIB from census data for 2000. As shown, there was very little unemployment in these jurisdictions, presumably due in part to the presence of fishery-related employment opportunities, and also the fact that the Kodiak economy is relatively diversified by rural Alaska standards (and particularly in comparison to the Aleutian region fishing communities, such as Unalaska, Akutan, and King Cove). The city of Kodiak has the second-lowest unemployment of any civilian community in the KIB region (3.6 percent compared to 2.1 percent in Port Lions), whereas the village of Old Harbor has the highest unemployment in the region at 12.5 percent. Proportions of the population considered to be below the poverty threshold vary between the communities, but taken in isolation this is somewhat misleading. For example, Ouzinkie had the lowest poverty rate of any community in the region in 2000 at 6.0 percent, but at the same time 48 percent of the adults in the community are not working. Old Harbor has the highest poverty rate in the region at 29.5 percent.

Table 2.4-18. Employment and Poverty Information, City of Kodiak and Kodiak Island Borough, 2000

Community	Total Persons Employed	Unemployed	Percent Unemployment	Percent Adults not Working	Not Seeking Employment	Percent Poverty
Kodiak	3,053	160	3.6	29.62	1,170	7.4
Kodiak Island Borough	6,131	335	3.4	29.27	2,532	6.6

Source: U.S. Census Bureau 2000.

The following discussion of the fishing industry is divided into a section on fishery-related organizations, followed by separate sections on the harvesting and processing sectors, as each is extremely important for the Kodiak economy and community. A fourth section provides some general contextual information on fishery industry support services.

2.4.3.1 Fishery-Related Organizations

An indicator of the central social, economic, and political importance of commercial fishing and fishing-related activities in the community of Kodiak is the number of local and locally based statewide organizations that represent a range of fishery industry interests including the harvesting, processing, and marketing sectors within the industry. Kodiak is also the base for various special interest community and environmental groups attentive to fishing issues. Some of these are long-standing, well-organized groups; others come together on an ad-hoc basis to address particular legislative or operational issues; while still others are loose-knit, grassroots affiliations organized to respond to particular issues facing a sector within the industry. These groups may be seen as falling into three basic categories: (1) organizations that promote marketing of a fishery product; (2) organizations focused on particular target fisheries (salmon, halibut, groundfish), gear types (longline, trawler, etc.), or industry sectors (processing); and (3)

grassroots organizations formed to respond to a specific issue(s) facing a sector or sectors in the industry. While there are a number of emergent organizations, the degree of organizational complexity is not seen in any of the other major fishing communities in the southwest portion of the state (such as Unalaska, Akutan, or King Cove) and is indicative of Kodiak's large fleet, processing capacity, and diversity of interests. The following is a general list of organizations, by type, within the Kodiak region.

Kodiak-based organizations that promote marketing include the United Salmon Association (USA), representing salmon fishermen, and the United Fishermen's Marketing Association (UFMA), which represents the nontrawl fleet. Both are multiple-layered organizations that are involved with marketing efforts, research, and providing formal representation on legislative affairs on behalf of their respective industries. USA is an organization of salmon fishermen concerned with issues of pricing, product quality, and long-term economic viability of the fishery. It is a fishermen's marketing association and consults with Alaska state legislators to draft legislation to maintain and compete in the salmon market. The association, as a whole, has worked toward creating organic labeling standards for wild salmon, obtained funding to provide the labeling to American seafood producers, and tracks resources available to fishermen under a variety of legislative programs. USA, in partnership with the "Kodiak Branding and Marketing Committee," a subcommittee of the Kodiak Chamber of Commerce, has established an extensive marketing campaign to promote wild Alaska salmon in response to the growth of farmed salmon and its impact on the Alaska salmon market. While its headquarters are based in Kodiak, USA's membership includes salmon fishermen in Kodiak, Prince William Sound, Southeast, and Western Alaska. UFMA has existed since the 1930s as a cooperative, negotiating salmon prices and, later, Tanner crab prices. UFMA represents nontrawl commercial seafood producers to government agencies on legislative and regulatory matters. They are also involved with advanced and applied fisheries research on a variety of levels. UFMA's core members are salmon fishermen but include Bering Sea and Gulf of Alaska crab vessels, as well as halibut, sablefish, and cod pot fishermen. While it does not represent processors, UFMA does work closely with both shoreplant and at-sea processors on issues of mutual interest.

Kodiak-based organizations representing particular fishery sectors include the Kodiak Long Line Vessel Owners Association (LLVOA) and the Alaska Whitefish Trawlers Association (AWTA), and the Alaska Groundfish Databank (AGDB) among others. LLVOA is a relatively small organization with few members, but those members reportedly include the top 10 percent of the producers in the fleet, with five member vessels alone, according to 2004 interviews with LLVOA staff, accounting for over 50 percent of all longline harvest in Kodiak. AWTA was formed in 1972 and represents trawl fishermen and vessel owners. It was originally known as the Kodiak Shrimp Trawlers Association; the organization subsequently became the Alaska Shrimp Trawlers, later changing its name to the Alaska Draggers Association, before announcing its current name in June 2008. AWTA provides formal representation on behalf of the trawl fishermen to government agencies, including national and international commissions on issues that affect the trawl fleet. The organization has a membership of about 45 trawlers, though some of these have other gear types, including longline and pot gear, on their vessels as well. Of the 45 AWTA members, 65 percent are Alaska vessel owners, while 30 percent are Washington or Oregon based. According to AWTA leadership, at least 75 percent of the member vessels have crew members that are Alaska based. AWTA staff have been active on the Council's Advisory Panel for over 20 years, and lobbies the Council on regulatory policy issues. Most of the members live and work in Kodiak and all fish in the Gulf of Alaska, while some also fish in the

Bering Sea. AGDB is a consulting, lobbying, and public relations firm representing trawl fishermen and groundfish processors at the state and federal levels on issues concerning fisheries, policy, and related issues. It is a private for-profit firm with two branches that include an "information services" and a "membership" branch. Any individual or entity can join as an informational client; full membership is determined on a client-by-client basis and includes most Kodiak-based processors. AGDB works with the fishing industry and National Marine Fisheries Service (NMFS) to facilitate the management of federal fishery openings and closures through provision of catch and processing information. AGDB provides weekly updates for BSAI and Gulf of Alaska fisheries and assists clients in developing fishing and processing business plans. Two other Kodiak-based organizations that may be seen as part of this category are the Kodiak Seiners Association and the Kodiak Set Net Association. These were both organizations formed in response to the Exxon Valdez oil spill, and both continue to be involved with legislative issues on an ad-hoc basis.

There are also a number of small, loose-knit organizations representing specific harvesting sectors within commercial fisheries in Kodiak. These are typically grassroots groups that do not maintain a professional staff but are active on what are perceived as key issues as they arise. A number of these organizations have been established to represent vessel skippers and crew in regulatory change, IFQ, and rationalization processes because, in the words of one representative, "the guys on deck are the last to know" about the impacts of potential management changes. Issues of recent concern to these groups have included absentee vessel ownership, share distribution, formation of co-ops with processor linkages, and state and federal fishery harmonization. Though available time did not permit follow-up and interviews with each group, the following are a few that represent the variety of organizations active in Kodiak: the Alaska Jiggers Association, representing small jig boats; the Fish Heads, representing skippers and crew; the Old Harbor Fishermen's Association, representing small communities and their interest in obtaining quota shares for communities outside the city of Kodiak; and the Kodiak Fishermen's Wives Association, a group supporting local fishermen.

2.4.3.2 Harvesting

Community Harvester Quantitative Description

An earlier North Pacific Research Board (NPRB)/NPFMC funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska* (EDAW 2005), included a quantitative characterization of the Kodiak local commercial fishing harvest sector, including detailed information on an annual basis, from 1995 through 2002, of local vessel characteristics, distribution of permit holders, catch and earnings estimates, and landings inside and outside of the community, along with an analysis of the spatial distribution of fishing effort of the local fleet. As updating this information is effort intensive and not central to the current BSAI crab rationalization 3-year review-oriented community analysis, it has not been updated for this community profile. Rather, the more qualitatively oriented and BSAI crab rationalization focused discussion in the next section has been updated.

Communities also directly benefit from the harvest sector through participation of residents as crew members as well as through the engagement of vessel owners and permit holders. Beginning in 2000, CFEC has produced estimates of crew members by community, based on the

number of permit holders in the community, plus the community residents who have applied for a Crew Member License with ADFG. Table 2.4-19 provides estimates of crew members for Kodiak for the years 2000 through 2006.

Table 2.4-19. Estimated Number of Permit Holders and Crew Members from Kodiak 2000–2006

Year	Permit Holders	Crew Members	Total
2000	656	1031	1,687
2001	CFEC did not develop this report for 2001		
2002	617	772	1,389
2003	600	752	1,352
2004	586	730	1,316
2005	598	702	1,300
2006	575	715	1,290

Note: Includes Chiniak.
Source: CFEC permit holder and crew member counts by census area and city of residence report, accessed via www.cfec.state.ak.us/Mnu_Summary_Info.htm.

Community Harvester Characterization

The Kodiak fleet is primarily composed of multigear and multispecies boats. 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 shoreplant 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, as noted in the processor discussion below. Most of the boats that deliver to Kodiak processors are multipurpose 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 owner interviewed reported that he fished for more than 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 (when openings occur). 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 number of boats to keep production lines busy all of the time, but with a trawl fleet's capacity to catch groundfish, harvest can easily exceed a processor's capacity.

Since 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 inefficient practices that tend to accompany such "race" conditions (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 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.

2.4.3.3 Processing

Community Processor Quantitative Description

An earlier NPRB/NPFMC funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak, Alaska* (EDAW 2005), included a quantitative characterization of the Kodiak local commercial processing sector, including detailed information on an annual basis, from 1995 through 2002, of the number of active processors, species processed, pounds purchased, ex-vessel values, and wholesale values by species, processing value added, and relative dependency by species. As updating this information is effort intensive and not central to the current BSAI crab rationalization 3-year review-oriented community analysis, it has not been updated for this community profile. Rather, the more qualitatively oriented and BSAI crab rationalization focused discussion in the next section has been updated.

Community Processor Characterization

Kodiak's shoreplants have played a significant role in the history of community, influencing its economic and demographic patterns over the years. Even among the eight major contemporary processing plants there is a considerable amount of diversity in the size, volume, and species processed. It is this diversification that best characterizes Kodiak's ability to weather the ebbs

and flows of an industry dependent upon changes in the viability of the resource being harvested, the market itself, and past/future regulatory shifts. Locally based processors vary in product output and specialization, ranging from large quantity canning of salmon, processed at several different locations within Kodiak, to fresh and fresh-frozen products, as well as niche markets servicing the sports-fishing industry.

Table 2.4-20 provides summary average annual employment figures for Kodiak plants for the period 1999 through 2002. As noted in the subsequent individual operation discussions, current employment varies considerably during any given year as 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 at year's end, the plants have little, if anything, to process and will reduce employment to a level sufficient to cover maintenance and off-season project needs while minimizing overhead costs. All of these factors should lead to caution when looking at "annual average" employment figures. Further, it should be understood that the available data only cover a few years and do not portray important longer-term trends that would require data from the years before 1999 and after 2002 to illustrate. For example, as detailed in subsequent discussions, a number of the plants included in this table were no longer in business at the time of fieldwork in late 2004; others have changed hands in the interim. In general, declines in a number of fisheries have taken their toll on Kodiak over the years. Despite these limitations, the data do allow a look at the relative scale of different processing entities in the community during this window. Current (2008) employment estimates for each processor are provided in the individual discussions below.

Table 2.4-20. Annual Average Employment by Kodiak Shore-based Processors, 1999–2002

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.

While the presence of local processing has been a constant in the community, individual operations have substantially different histories and have undergone a variety of changes in recent years. For example, among the large plants processing groundfish and salmon in the community, the facility now operated by Trident Seafoods centers around a converted World

War II "Liberty Ship" that was reportedly brought to the community by previous owners (Alaska Packers) in the wake of the devastating 1964 earthquake to become the first plant up and running after that disaster. (This facility apparently later operated under the names All Alaskan and Tyson Seafoods before being acquired by its present owner.) Ocean Beauty, on the other hand, operates in a facility originally built in 1911, which was the oldest and largest seafood production facility in Kodiak when it was purchased in the 1960s. In 1967, B&B Fisheries opened its doors, which became Western Alaska Fisheries in the early 1970s, and is still in existence today. Ownership type also varies widely. For example, International Seafoods of Alaska (ISA) is a wholly owned subsidiary of True World Group, Inc., which is in turn owned by the Unification Church. In contrast, Alaska Fresh Seafoods (AFS), a smaller plant, has been in operation since 1978 and is owned, in part, by Kodiak and other Alaska fishermen.

All plants feature busy and slow periods during the year, but these peaks and valleys differ at least slightly for each processor, based upon the dependence of processor to fishery or the relationship between fleet and processor. This seasonal pattern has also changed with changes in the fisheries. For example, earlier (2004) interviews with processing plant personnel pointed out how the role of halibut has changed in terms of local processing since the implementation of the halibut IFQ management program, with three-quarters or more of all halibut going to market as a fresh product, as opposed to perhaps one-quarter before IFQs. This has not only changed the role of halibut in individual operations, it has also resulted in a different pattern of landings, with the economics of the fresh market favoring road-connected ports over Kodiak for at least some harvest areas. More recently, BSAI crab rationalization has shifted the periods when BSAI crab is run at the local processors.

With regard to the workforce among Kodiak processors, the large majority of plant workers in Kodiak are drawn from the local labor pool. While some workers still come to the community specifically for processing work opportunities, in the past 20 years, the importation of short-term workers by the processing companies themselves has become less and less common. As of 2008, among all major Kodiak plants, only Trident reports bringing workers into the community on a 6-month contract basis and providing them bunkhouse quarters, similar to the pattern seen in the years before the development of a large local workforce. In the not-too-distant past, Ocean Beauty and Western Alaska Fisheries both utilized bunkhouse facilities during peak seasons, but neither continues to do so. (Alaska Pacific Seafoods [APS] has retained a small bunkhouse, but this is used only as transitional housing for workers new to the community; ISA has a bunkhouse but rents out spaces to workers as a more-or-less traditional landlord rather than providing living quarters as part of a room-and-board living arrangement; Western Alaska Fisheries will rent housing on a temporary basis for transient student workers during peak seasons but otherwise does not provide housing for its workers.) This high reliance on the processing workers from a local labor pool differentiates Kodiak from other major processing communities in the southwestern part of the state, such as Unalaska, Akutan, King Cove, and Sand Point. Major processors in each of these communities still retain a relatively transient labor force approach to staffing processing plants. In January 2005, however, in a departure from the local pattern, Western did hire seasonal workers from outside the community for the early peak cod season but did not offer housing as part of the employment agreement. This ended up causing considerable concern in the community as, according to local newspaper accounts, about 80 people hired through Alaska Job Service in Anchorage arrived in the community prior to the start of the season without having made housing arrangements (despite knowing that they needed to do so) and without sufficient resources to care for themselves prior to earning their first processing

paycheck. This, in turn, proved to be a challenge for local service providers, as the unprepared workers utilized local shelters for immediate food and housing needs. While this may have been an isolated incident, it illustrates the continually changing nature of attempting to meet peak processing demands over time. The following sections provide a description of each processing plant, its products, annual round, fleet, peak seasons, and workforce. The discussion is further divided into plants that currently process rationalized BSAI crab and those that do not.

Seafood Plants Currently Processing Rationalized BSAI Crab

A total of three major Kodiak seafood processing plants are currently (2008) processing rationalized BSAI crab: Ocean Beauty Seafoods, APS, and Alaska Fresh Seafoods. These plants, and the impacts to the plants of BSAI crab rationalization, are characterized in this section.

Ocean Beauty Seafoods is a major producer of fresh, frozen, and canned salmon but participates in a range of other fisheries as well, including cod, pollock, rockfish, flatfish, perch, and herring, along with local Tanner (when open) and Dungeness crab and halibut. Ocean Beauty management reports that the plant essentially runs all available commercial species. Production is year-round, with the exception of a dead period from mid-November through the end of the year. While in years past, plant management characterized that about 50 percent of their business related to salmon processing while groundfish made up almost all of the remaining half, groundfish has been relatively more important in recent years, but annual fluctuations occur. With regard to groundfish, cod is the most economically important to the plant, with pollock, rockfish, and flatfish following. Dungeness and halibut were once more important but now are considered "filler" runs.

Ocean Beauty is one of the few shoreplants that still engages in canning operations. It cans pink salmon, while all other species are sold frozen or fresh. Its busy seasons are January through March, when pollock and cod are processed; June through August during the salmon runs; and then again during the fall pollock and cod seasons during September and October. On-site employment peaks at around 225 during the January-March and June-August busy seasons, when employees can average 60- to 70-hour workweeks. Ocean Beauty's workers are drawn from the local residential workforce, with the exception of a few machinists who are brought in for the summer busy season, but who are otherwise employed in the company's Pacific Northwest operations, and temporary processing hires that augment the regular workforce during the highest peaks. The plant maintains about 20 to 25 people working 40-hour workweeks when processing is not occurring.

Ocean Beauty maintains an ongoing and relatively steady relationship with the same fleet every year, with the current (2008) fleet reported to be very similar to the one characterized in 2004, although Ocean Beauty neither owns any vessels nor has formal contracts with delivering vessels. For groundfish, the fleet includes 4 draggers, 25 fixed gear vessels, a small number of pot gear vessels, and occasional deliveries from transient vessels. For salmon, approximately 55 seine vessels and 30 set gillnet site fishermen deliver to the plant. Ocean Beauty also operates a seasonal plant at Alitak, near the village of Akhiok at the southern end of Kodiak Island. Open from April 15 though October 1, this plant processes salmon delivered from 25 seiners and 30 set gillnet sites, along with halibut, black cod, and herring. Because Ocean Beauty's Kodiak shoreplant is geared for canning and freezing salmon, as well as processing groundfish and other

niche species, it allows plant management the flexibility to "try and buy as much as we can, of anything we can, as long as it makes economic sense" in order to keep the facility running efficiently. This variability and diversity are typical of the mid-size plants, and some larger plants, on Kodiak. Whereas, in the late 1970s, each plant seemed to have a special níche, because the profit margin is smaller now than in the past, there is a greater need to run a variety of fish to cover overhead. Plant personnel reported that two changes have occurred in the recent past: through diversification, running both salmon and groundfish, Ocean Beauty is better able to spread the risk and lessen the potential of losing a particular market, and the demand for value-added processing, including fillet and portioning as well as relatively new products such as freezer pouches and pop-tops, has grown exponentially. With regard to domestic versus overseas shipping of product, the balance between the two fluctuates in response to market conditions, but almost all salmon product continues to ship to domestic destinations.

In terms of BSAI crab rationalization impacts, local Ocean Beauty plant management reports that they were initially issued the majority of Processor Quota (PQ) in Kodiak, but that as of 2008 were not running any of their A share Individual Processor Quota (IPQ) (and were barred from doing so) due to becoming designated as a vessel affiliated entity between the time of initial PQ issue and the present time. This occurred as a result of investment in the firm (and therefore acquisition of ownership interest in the company) by an Alaska Native entity that also holds vessel ownership interests. Ocean Beauty still holds PQ ownership of A shares of rationalized opilio, king, and bairdi crab (although the latter is characterized as particularly small), but these shares are now operationally controlled by the City of Kodiak, which currently (2008) leases the IPQ to two other local processors. Prior to the effective release of A shares, Ocean Beauty did purchase more B share opilio than it held in A share PQ, and it never bought its own bairdi A share because of the logistics of delivery of such a small amount of crab. Ocean Beauty does purchase B share crab, with 2007 being the first year that their local processing was composed exclusively of B share deliveries. In 2007–2008, Ocean Beauty bought B share king crab and opilio, which reportedly was the very last crab delivered to the community those seasons, setting back the normal processing schedule compared to previous years. According to plant management, BSAI crab boats will not come to Kodiak to deliver B shares early, but rather will do so on a season-ending trip when they are done fishing that species. Local Ocean Beauty management reports that there have been times in the past when they have been offered B share crab and did not take it because of other processing that was occurring at the plant, and times when they have wanted additional B share crab and could not obtain it. Overall, the largest impacts of the rationalization program on the processor have resulted from the unintended consequences of the unique circumstances of changing investments in the firm, not the overall level of crab deliveries to the community of Kodiak. While Ocean Beauty did receive more PQ of king crab than any other Kodiak processor, local management has described the amount as not all that large in absolute terms (approximately 470,000 lbs of IPQ in 2006), and the effective loss of A share access has not resulted in changing employment patterns at the plant. Management does report, however, given that some king crab was run every year (with Ocean Beauty pioneering the small packs that have now become common), it is "hard to watch other plants divvy up our crab," just as it is hard for Ocean Beauty processing workers who would typically get a king crab-related bump in earnings before the year-end holidays to see that bump go to workers at other plants. Further, management reports that BSAI crab vessels that had built a relationship with Ocean Beauty over the years were now obligated to go to other plants, which could be problematic, particularly if those plants are not set up to run crab at the rate that Ocean Beauty could process (and presumably crab did not fit into ongoing business operations of those

plants in the same manner as it did at Ocean Beauty as evidenced by processing patterns during the BSAI rationalization qualifying period).

APS, a division of North Pacific Seafoods, was the first American plant to produce surimi. The surimi operation was started through a National Oceanic and Atmospheric Administration (NOAA) grant in 1985 and made surimi every year until 2003, before discontinuing surimi production due to market forces. Processing has become diversified over the years, and now includes salmon, sole, groundfish, pollock, flatfish, herring, and local Tanner crab (when open), along with some BSAI crab. While APS used to have a nonstop workflow with very few peaks and valleys, maintaining this pattern has become more difficult since the late 1990s. APS used to bring in employees from outside the community in the 1980s and early 1990s, when they were operating four cannery lines. They have since moved from canning to frozen products and have not used the bunkhouses since the late 1990s, employing long-time Kodiak residents instead. Use of local residents also has brought with it flexibility and, as a result, APS processes more niche species, such as sea cucumbers, which enables the plant to maintain a constant crew, sustain the fleet that brings them higher-value products, and better control overhead.

In terms of an annual round, at present (2008) January through March is characterized as a busy period as cod, pollock, sole, and some crab are processed. April sees sole and herring processing but is somewhat less busy, and May is a slow month. June picks up with rockfish, but the pattern has changed in the past few years with the rockfish rationalization pilot program (implemented in May 2007), and July through August are peak activity months, due primarily to salmon being run in combination with rockfish and pollock. September and October feature mostly cod and pollock processing, and some crab processing has occurred toward the end of the year. APS maintains a core labor force of approximately 110 people who are long-time Kodiak residents. This stability reportedly benefits the employees as well as the plant, as with steady employment comes increased benefits, such as insurance. During the busy seasons, the crew increases to between 190 and 200 people, and the plant runs in two shifts per day during the peak times. During slow periods, the number of crew on-site varies, depending on availability and volume of niche species, such as sole and herring. The trough of plant employment has typically occurred in November and December when the plant maintained a small crew of 6 to 8 people at 40 hours a week, as well as others to perform maintenance and cleanup for a few days per week, but this is somewhat variable with recent changes from BSAI crab rationalization. APS does not typically supply processing employee housing, but it does have a small bunkhouse that is often used as a transitional housing source for those new to the community or for peak housing demand, such as immediately after the completion of the Bristol Bay salmon season when 20 or 25 workers transitioned to Kodiak.

The plant takes deliveries from approximately 160 vessels during a year, but there are about 20 "core" versatile vessels that deliver salmon and participate in a range of other fisheries. According to plant management, there are another 20 or so multispecies vessels that are mid-range and relatively steady in their delivery volumes, with the balance of the delivering vessels supplying landings to the plant in "dribbles." With regard to groundfish, APS maintains steady delivery relationships with six trawl vessels and eight fixed gear pot and longline vessels. All but two of these have IFQ for halibut and black cod. With regard to halibut, the market has become more competitive; APS's approach is to maintain a good relationship with the vessels bringing in halibut because those same vessels are also bringing cod, crab, and pollock. Although the market has shifted to Homer and is not as much of a "money maker" as it used to

be, APS reports it still benefits by maintaining ongoing relationships with vessels and key customers alike. For example, in recent years shipping halibut via the airlines was reported to help maintain steady air cargo freight prices for the company throughout the year. Similarly, as halibut is purchased, it keeps a steady relationship with the vessels when APS needs cod or pollock.

In terms of impacts to local Kodiak operations resulting from BSAI crab rationalization, according to APS plant management, in 2007–2008, the Kodiak APS plant ran both Bering Sea opilio and king crab. The plant did qualify for what local management characterizes as "a sliver" of A shares—no Bering Sea red king crab, some Pribilof king crab (although those fisheries are currently closed) and "a dab" of opilio. However, during 2007–2008, the plant did lease Kodiak Community Fisheries Development Association opilio and king crab quota in addition to its own A shares and some B and C share crab it also purchased from the individual harvest quota holders. According to local plant management, there have been some challenges in competing with Bering Sea-based processors for B shares, particularly those larger plants with large PQs, as those plants have had the largest benefits of increased operational efficiencies under the rationalization program (ability to schedule deliveries and crew, optimize processing line use, and the like). According to local APS management, at the Kodiak plant it really is not possible to schedule BSAI crab deliveries, particularly for B shares, as those come at the end of the season as different vessels and co-ops close out their quota. With unscheduled and staggered deliveries, there are line start-up and shut-down inefficiencies that tie into the ability to compete on price. Other factors in play are whether or not vessels are storing their gear out west, along with rising fuel prices. Some secondary impacts have been felt with the fleet consolidation that resulted both from the crab vessel buy-back program as well as BSAI crab rationalization itself, where it has reportedly been more difficult to find adequate tenders for Bristol Bay salmon operations, but at present (2008) it is thought that that situation will have worked its way out by this summer's season.

AFS is a small plant that has been in operation since 1978. AFS was originally half-owned by fishermen, and two private owners, a broker in Seattle and a Kodiak resident. While the AFS corporate office is in Seattle, it is still managed out of Kodiak. According to AFS management, it originally was a crab-only plant (running king, Tanner, and Dungeness), owned in part by Bering Sea crabbers, and was reportedly the first plant in Kodiak to run opilio crab. According to AFS ownership, the plant was fully dependent on crab from 1978 until the crab crash of 1982. In the mid-1980s, the plant diversified into cod and halibut, among other endeavors. Over the years processing focus has continue to evolve and at present (2008) AFS typically processes cod, halibut and halibut by-catch species (skate and black cod), some red salmon, and king crab. Additionally, AFS "started in earnest" on Dungeness crab in 2007 (with deliveries being made by a single vessel). Overall, AFS management reports receiving fish from an average of 158 vessels annually, consistent with what was reported in earlier years. Of these, 95 have halibut IFQs and vary from 80-foot vessels to small skiffs. Local management estimates that in 2007–2008, deliveries were taken from about a half-dozen Bering Sea crab boats.

While there is some flow of processing year-round, processing focus changes throughout the year as AFS processes cod in January; halibut and skate, a by-catch of halibut, beginning in March; black cod May through August; and king crab in November, with the timing of the latter influenced by the shift to BSAI crab rationalization as local deliveries reportedly now only occur at the very end of the lengthened season. Slow periods do occur during the summer and late in

the year. July and August are typically slow when the salmon fleet is out. November is also typically slow except for king crab processing, and the plant shuts down altogether around December 15 and remains closed through the holidays. Otherwise the plant is characterized as relatively busy year-round.

A core crew of about 12 people work 40-hour weeks at AFS throughout the year. This number easily doubles during the busy seasons and can reach a maximum of 40 to 45 people during peak periods. At present (2008) approximately 18 people work in the January through March period when processing is dominated by cod. Within this period there is an opilio "bump" of about 2 weeks in late February/early March when there are around 40 workers on-site. With increased halibut processing from April to June, the workforce includes approximately 30 people. There is another labor peak in October primarily related to halibut and black cod that lasts until mid-November. With BSAI crab rationalization, crab processing now occurs in late November and can last into the first week of December. According to plant management, the peak workforce has changed from domestic college students who years ago came to Kodiak to work during peak periods, to a primarily local workforce today. AFS does not have bunkhouse facilities, nor does it otherwise provide room and board for its workers. While some college students are still seen during peak summer periods, reportedly these are all individuals from overseas rather than from U.S. colleges. Similarly, AFS reported that it was common, not so long ago, for USCG spouses to work prior to the holiday season in the fall, but this apparently no longer occurs either. In addition to adding workers during peak periods, shifts also lengthen, ranging 10 to 16 hours during the busy seasons.

With respect to BSAI crab rationalization impacts, AFS management reported in 2008 that if it were not for the leasing of processing quota (A shares) from Ocean Beauty (via the Kodiak community fisheries development association), AFS would essentially be out of the BSAI crab business because of such a small initial PQ allocation of its own (approximately 30,000 pounds in the first year, or less than one van's worth, according to one of the owners). According to plant management, however, there were a number of trends that served to diminish BSAI crab processing at the plant prior to the implementation of crab rationalization itself, including changes in pot limits that effectively facilitated deliveries to more western communities and made deliveries to Kodiak logistically more difficult, particularly given the pattern of Kodiak primarily being the recipient of "last load" deliveries. AFS management also reports that under rationalization "last load" BSAI crab does not come into Kodiak in the same way it used to as with the formation of co-ops under rationalization, all B share quota tends to go onto one boat per co-op. BSAI crab rationalization has also introduced a degree of uncertainty to crab processing at AFS, according to plant management, as it is currently dependent upon the community association A share lease arrangement, which is based on a yearly agreement, such that future processing is dependent on continuing successfully reach annual agreements. AFS has successfully obtained crab delivered under B and C share quota allocations based, according to AFS management, on 20+ years of good relationships with Bering Sea fishermen.

One of the major owners of AFS also has ownership interest in a company (Woodruff & Associates) that has provided pot storage services to the crab fleet over the years. According to the owner, 100 percent of the customers of this business used to be fishermen, but with decline in pot storage demand, the business has diversified into moving and storage, including camper storage. Part of the drop in demand in business was reportedly related to pre-crab rationalization changes in pot limits, which apparently caused vessels to store more gear out west rather than in

Kodiak, although the business owner has stated that BSAI rationalization itself has caused an approximately 30 percent drop in revenue for the business.

Seafood Plants Not Currently Processing Rationalized BSAI Crab

A total of five major Kodiak seafood processing plants are not currently (2008) processing rationalized BSAI crab: Trident Seafoods, Western Alaska Fisheries, Island Seafoods, ISA, and Global Seafoods. These plants, and the impacts to the plants of BSAI crab rationalization, are characterized in this section.

Trident Seafoods currently (2008) processes pollock, rockfish, flatfish, halibut, and Pacific cod at its Kodiak facility. Unlike a number of other Kodiak plants, Trident does not process salmon. Trident seeks to differentiate itself through the production of top grade surimi and value-added products through their own packaging. The majority of their products are frozen, such as H&G, fillets (frozen, shatter pack, block), and surimi, although fresh fillets are also produced. Trident's peak periods have changed in recent years, and overall processing is steadier throughout the year now than was the case even a few years ago. This leveling of processing effort was reportedly facilitated to a substantial degree by the rockfish pilot rationalization program that began in May 2007 and shifted rockfish from a summer peak fishery to primarily a May to June fishery. The reduced halibut bycatch in rockfish fishery, which was rolled over into the flatfish fishery, allowed the flatfish processing to continue at the plant until the first week of December 2007. Busier periods, if not as dramatic as in the past, are still seen around pollock and Pacific cod openings. The plant also processes halibut and black cod "as it comes in," but these do not represent peak fisheries.

Local Trident management staff reports a relatively stable workforce throughout the year of about 250 individuals, of whom about 200 are Kodiak residents on-call and approximately 50 of whom are brought to the community on a 6-month contract basis. The latter group is recruited out of Trident offices in Seattle and lives in Trident bunkhouse facilities during their stay in Kodiak (while the Kodiak resident processing workers do not stay in company housing). The specific number of workers on-site on any given day is a function of how fish deliveries come into the plant. This is quite a different pattern than was described by plant management in 2004, when workers were shifted between Trident plants in Kodiak and elsewhere to balance workforce requirements across plants in different communities that had different peak demand cycles. At present, an additional 20 to 30 workers may be brought in on a temporary basis during particularly busy times, but this is not a regular occurrence. During the peak periods, there are typically two 12-hour shifts run, although shifts can last up to 16 hours. The Trident Kodiak plant has for quite a few years maintained a steady relationship with the same dozen pollock, cod, and rockfish vessels, some of which also participate in hake fishery in the Pacific Northwest.

In terms of BSAI crab rationalization impacts, local management at Trident Seafoods reports that there have been no known impacts to their Kodiak operations resulting from crab rationalization, due to a lack of historic or current participation in BSAI crab processing.

Western Alaska Fisheries processes cod, pollock, local Tanner crab (when open), flatfish, salmon, and rockfish, with a heavy emphasis on groundfish. According to plant management, groundfish provides over 90 percent of its product sales; about 8 percent is salmon; and the

remaining 2 percent is a combination of crab, herring and halibut. Western does no canning, focusing on a variety of frozen and fresh products. Frozen groundfish products include fillet, surimi, pollock roe, cod roe milt, stomachs (pollock, cod), heads, and milt (primarily for the Japanese and Korean markets). Fresh groundfish products include head and gut and in the round products from cod and pollock, along with milt. Salmon head and gut and fillet products are processed and sold fresh and frozen. According to plant staff, over 60 percent of Western's business is exported, with 40 percent sold domestically, though changes in both markets are occurring, with Asian markets in a growth cycle. Western reported that while halibut used to be important locally, Kodiak is no longer in a position to compete on prices with communities on the road system, such as Homer.

Western is the only union plant in Kodiak. It employs a core workforce of about 120 people, but total employment fluctuates with the season. January through March marks the first busy season for Western, with cod, pollock, and Tanner crab being important species. According to plant management, during this time, the numbers of employees increase to around 180 to 200 full-time equivalent staff, covering 10- to 12-hour shifts per day. During May and June, activity at the plant has reportedly been helped by the rockfish rationalization pilot project that is now (2008) about 2 years old. (The program has allowed the plant to move rockfish into what was a slow time, improving processing flow at that time of year, as well as moving it away from overlapping with peak salmon time, when it was problematic to handle.) Processing speeds up again from June to August when salmon seasons open and continue into the fall. At this time, around 180 to 200 people are working full-time processing salmon, rockfish, cod, and pollock, the latter of which reopens on August 25. Employment is pared back to the core crew of approximately 120 for the November to early December period when flatfish are being run at the plant. At the end of December the plant is basically down except for maintenance. Workers at the plant are typically local residents, although the plant does supplement its local labor force with about 40 to 50 students from Turkey (arranged through a third-party service) during the summer salmon season. Reportedly this arrangement has been in place for several years and has worked out well for the plant, which rents housing for these temporary workers. During winter peak times another 40 to 50 workers are required to supplement locally available labor, and these individuals are recruited from a variety of places, including elsewhere in Alaska as well as outside the state.

Western's fleet includes 10 trawlers, 6 longliners, 3 to 4 pot cod, and 8 salmon seiners that also harvest herring and local Tanner crab. While the plant used to take salmon from a substantial number of set-net sites (reportedly 40 in 2004), they no longer do so. As a result of Western's ongoing relationships with the same fleet, year in and year out, it processes fish year-round, turning out products in off-seasons, with rockfish a case in point. According to plant staff, "We do things here just to keep our boats happy. We can make surimi fast, to get the guys offloading, back out there, to keep our own people busy." With regard to shipping of products, less than 10 percent of its products is flown out fresh, with the balance surface shipped as frozen products.

In terms of BSAI crab rationalization impacts, local management at Western Alaska Fisheries reports that there have been no known impacts to their Kodiak operations resulting from crab rationalization, due to a lack of historic or current participation in BSAI crab processing.

The plant operating as Island Seafoods has been in Kodiak since 1995. It did not, however, operate in 1998, changed ownership in 1999, and was acquired by its current owner, Pacific

Seafood Group, in 2003. While Island Seafoods is the smallest commercial fisheries processor in Kodiak, according to plant management, Pacific Seafood Group is a vertically integrated firm that owns processing and distribution facilities, is one of North America's largest seafood companies, and continues to grow locally as well. Island Seafoods processes commercial cod, halibut, rockfish, and salmon, and in recent years has also added flatfish, Pacific Ocean perch, and pollock to its range of species. The delivery fleet has also changed within the last few years. An overall strategy, particularly in the first few years post-ownership change, was to work primarily with vessels that are not serviced by the larger processors, including a relatively large number of small-volume entry-level jig vessels. The number of these small vessels delivering to the plant has declined sharply more recently, to perhaps a quarter in 2008 of what was seen in 2004. The plant also takes deliveries from longliners and pot boats, and there has been an increase in the deliveries from larger vessels at the plant in recent years. Plant management reports that overall tonnage through the plant has increased by perhaps 40 percent in the last 4 years (2004–2008). Part of the strategy in this fleet mix is to be well positioned as a sustainable fishery participant in the face of potential future fishery management changes. Island Seafoods obtains its salmon from multiple set-net site owners, which have increased in number substantially in recent years, and from a single salmon vessel.

In addition to being of a smaller scale, Island Seafoods differentiates itself from other local processing businesses by being diversified into other business activities, including selling retail and catering to the sport charter fishing industry, processing and shipping sport fish for the visitor trade. Island Seafoods also prepares corporate gift packs and sells its products off a website. Related ventures include operating as a Federal Express facility, and future plans to increase sales to the visitor/tourism market include opening a restaurant. These various ventures are characterized by plant management primarily as "add-on sales," as Island Seafoods sees itself primarily as gaining efficiencies by "eliminating the middle-man" and delivering commercial seafood directly to Pacific Seafood's distribution markets, with its strength being found in its focus on fresh products and its ability to adapt quickly to American markets. In terms of the relative dependency on different business avenues, Island Seafoods management estimates that less than 10 percent of its total gross sales comes from sportfishing and its retail business, while over 90 percent remains in commercial seafood production. Currently it is estimated that about half of the commercial product stays in the United States while around half is exported.

Like other processors, Island Seafoods has a distinct annual cycle, but with different historical roots. The company began processing sportsfishing products only, and, as time went on, it filled in the remaining years with commercial production, until that became the dominant aspect of the plant production. The plant currently (2008) maintains a core workforce of 45 full-time employees (over twice the number reported in 2004) from January through November, with the workforce increasing to about 60 employees during peak salmon season from July through mid-September (about a one-third increase over the peak number reported in 2004). As is the case with other plants, December is a dead period with only a skeleton crew performing maintenance and cleanup tasks. Island Seafoods segregates its sportsfish processing operation from its commercial operation not only in terms of physical processing but also in terms of its workforce; 8 or 9 of the summer peak season employees work solely with sportfish processing.

In terms of BSAI crab rationalization impacts, management at Island Seafoods reports that there have been no direct impacts to their Kodiak operations resulting from crab rationalization, due to a lack of historic or current participation in BSAI crab processing. Plant management does

report that pre-rationalization, occasionally they would take spill-over deliveries from trawl or longline groundfish vessels that were unable to deliver to their originally intended Kodiak processing plant if that plant was backed up with peak crab deliveries, but that was an infrequent occurrence.

ISA (formerly known as True World – International Seafoods) local plant management reports that although there have been a number of fluctuations in the meantime, their mix of processing species and products and levels of employment are currently (2008) quite similar to what was reported in 2004. ISA processes pollock, cod, salmon, and flatfish at its Kodiak plant. During its busy periods of January through March and June through July, the local ISA workforce is composed of approximately 150 people. In the interim slow seasons, around 40 to 50 employees work at the plant, but labor demand can be difficult to predict on a day-to-day basis as sometimes 16-hour days are followed by several days off between deliveries. In general, ISA now has a smaller workforce than was utilized before the plant was shut down for about 6 months in 2002, during which time it changed hands and operations were reorganized. ISA utilizes a local workforce, although they do maintain group quarters in the form a single bunkhouse, left over from a number of years ago when peak employment demands at the plant were higher, which they rent to workers.

ISA produces a variety of products. From pollock, the plant produces fillet, head and gut, and fish in the round. With regard to salmon, ISA produces head and gut, fillets, and salmon rolls; for cod, products include fillet, head and gut, and round. They do not can any products. Plant management reports that the product mix has changed in recent years, including a greater demand for head and gut going mostly to China, while the overall demand for surimi has diminished. Fresh halibut has been produced in a number of recent years but is not a steady product for the plant. The fleet associated with the plant consists of 30 to 40 vessels, including a number of smaller jig and pot boats, 4 or 5 draggers, and 15 to 20 longliners. Typically, around 15 salmon boats deliver to the plant. Approximately 60 percent of the products originated at the plant are reported to be exported to Japan, Korea, and China, with a small percentage going to European markets, while fresh cod is sent to domestic markets.

In terms of BSAI crab rationalization impacts, local management at ISA reports that there have been no known impacts to their Kodiak operations resulting from crab rationalization, due to a lack of historic or current participation in BSAI crab processing.

Global Seafoods opened its doors in 1999 and operated for 2 years as a groundfish processing plant. Not financially solvent, Global was then shut down for 2 years and reopened in January 2003. Upon reopening, the plant diversified into other fisheries beyond groundfish, with plant management reporting a tripling of production between 2003 and 2004 through a combination of salmon and groundfish processing and marketing relatively underdeveloped species such as skate and arrowtooth flounder. Currently (2008), the Global management characterizes the Kodiak facility as primarily a groundfish plant, but with an additional strong emphasis on salmon. There is a continuing marketing effort for different groundfish products, such as livers, stomachs, and codheads, as well as a number of species that come into the plant as bycatch, such as grenadiers.

The fleet delivering to Global Seafoods is reportedly currently (2008) similar to the fleet as described in 2004, which included 3 trawlers, 25 to 40 longline vessels, 10 to 15 jiggers/salmon seiners, and 2 pot boats. (A particular niche of the delivering fleet that Global has developed is

among Russian-speaking longline captains and owners, as the owner of Global is also fluent in Russian.) In terms of an annual cycle, January to April is a peak period for groundfish (about a month longer than reported in 2004), while the plant is typically closed to deliveries for most of May. Around June 10, cod deliveries will resume, starting a busy period that reaches a peak during July and August when salmon fisheries are in full swing. September and October are again busy months for groundfish, with things slowing down again during November and December. A relatively recent change that has occurred in the annual cycle was brought about by the Gulf of Alaska rockfish rationalization pilot program. Global did not qualify for participation in this program, although reportedly rockfish and particularly a couple of rockfish fishery bycatch species, Pacific Ocean perch and black cod, were considered relatively important to the plant.

Global Seafoods employs about 150 people during peak seasons (down from the approximately 200 reported for peaks in 2004), working two 12-hour shifts. Hires are typically drawn from the local labor pool, with individuals in the core crew reportedly either working at Global or, when seasonal layoffs occur, drawing unemployment benefits but remaining in the community. Approximately 20 to 40 extra workers from outside the community are typically added during the summer salmon seasons, with these jobs being filled in recent years by foreign students (primarily from Turkey). Global had a formal agreement with an agency to facilitate these hires for a few years, but did not enter into such an agreement in 2007. A number of former student workers returned on their own, however, so this particular overseas labor pool continues to be a source of seasonal help. Local management reports that if salmon gets "particularly crazy" they will place job service postings, but typically do not need to do so, as individuals leaving other processors are sometimes available (and prefer not to do so if recruiting proves necessary, as the overseas student hires have reportedly proven to work out better than job service referrals). Global does not provide worker housing but will help outside hires find local housing. During off-seasons, employment at the plant will drop to 12 to 15 individuals.

In terms of BSAI crab rationalization impacts, local management at Global Seafoods reports that there have been no known impacts to their Kodiak operations resulting from crab rationalization, due to a lack of historic or current participation in BSAI crab processing.

2.4.3.4 Support Services

The community of Kodiak is distinguished from most other Alaskan fishing ports by the number and range of support service businesses that cater in whole or in part to the commercial fishing industry. Support services include a wide range of companies, including companies that provide direct services to processing plants and harvesting vessels, such as hydraulic and welding firms, as well as indirect service providers that still depend to a degree on fisheries-related activities, such accounting and bookkeeping services and vehicle rental enterprises. In addition, there are also several educational and governmental entities that operate fisheries-related research facilities in Kodiak. The locally based Fishery Industrial Technology Center, part of the University of Alaska Fairbanks, has two main academic programs, sustainable harvesting and seafood processing, with programmatic efforts focused on harvest technology, processing technology, seafood quality and safety, contaminants, and collaborative ecological research. The Kodiak Fisheries Research Center, owned by the KIB, leases space to various public entities, such as NOAA Fisheries, which with its Alaska Fisheries Science Center staff operate the Kodiak Laboratory on the premises, the Alaska Department of Fish and Game, and the

University of Alaska Fairbanks School of Fisheries and Ocean Sciences. Further, NOAA Fisheries research vessel *Oscar Dyson* is home ported in Kodiak. Kodiak College, a 2-year campus of the University of Alaska Anchorage, also offers programs that support the fishing industry and allows residents the opportunity to pursue higher education goals without having to leave the community. Among the communities in the region, Kodiak has the greatest diversity and capacity to support Gulf of Alaska fisheries. The community also serves as an in-state support hub for some of the BSAI fisheries, although Unalaska/Dutch Harbor is far and away the primary support base for that region.

While Kodiak has consistently been a center for support service provision for the commercial fishing industry, the level and nature of service provision have not been consistent, with changes in the fishery driving changes in the support sector. While systematic data on how individual support services have been affected by changes in the local fishing economy are not available, there are a number of qualitative indicators of these impacts, as detailed in the discussions below.

Support services may be characterized in a number of different ways, and not all categories of support businesses are mutually exclusive, as a single enterprise may supply a range of services. Further, there are a number of providers of goods and services in the community whose businesses may feel the impact of fishery-related activity, but they are not directly connected to the fishery. For the sake of simplicity, however, the following discussion of Kodiak support businesses is organized by general category (shoreplant support, vessel support, and shipping) and limited to direct service providers.

The following business characterizations were derived from limited field interviews conducted over a brief period of time. It was not possible to contact all support service businesses in the community, and these sketches are intended to convey the types and nature of these businesses in the community, and their links to the fisheries, not provide an exhaustive inventory of Kodiak support service businesses. For the purposes of this report, a premium was placed on re-contacting businesses that were included in interviews in 2004 in a pre-BSAI crab rationalization social impact assessment effort.

Shoreplant Support

One specialized support niche in Kodiak is fish waste processing, which may be considered either a form of processing or of fishery support. According to earlier (2004) interviews, Kodiak Fishmeal Company is dependent upon the biowaste from the processing plants to produce a high protein product known as fishmeal, along with fish bone and fish oil. Fish waste is ground into a consistent size, and the moisture is extracted. Fishmeal is reportedly the largest and most valuable end product and is primarily sold to the aquaculture industry in Asia as a feed component. The market for fishmeal continues to grow, and two forms are produced in Kodiak: white fishmeal and dark fishmeal. Fish bone is used primarily as fertilizer, and fish oil is either used to run the fishmeal plant boilers or is sold to the aquaculture industry. While a fishmeal plant was operating in the community in the early 1990s, it had a limited capacity such that processors still disposed the remaining majority of the waste by loading it onto barges and discharging it into the ocean. According to those earlier (2004) interview data, the impetus for the current larger-scale operation began in the mid-1990s when the U.S. Environmental Protection Agency demanded that Kodiak processors more closely adhere to federal environmental regulations, risk significant fines, or face a shut-down. At that time, again

according to interview data, seven processors formed the Kodiak Fishmeal General Partnership and built a new biodrying plant to handle large amounts of waste per day.

Processing plants in Kodiak, like processing plants elsewhere in Alaska, are to a significant degree self-supplied from outside of the community, given relative ease of shipping and existing business relationships outside of Kodiak. Nonetheless, processing plants do economically interact with various support sector businesses on Kodiak to a degree not seen in more isolated communities such as Unalaska, Akutan, or King Cove, through purchasing groceries for their galleys, fuel purchases, local maintenance contracts, and purchases of various parts and supplies in the community. These include electronics, metal fabrication, hydraulic maintenance, and hardware purchases, among others. These businesses are typically primarily oriented toward vessel support and are described in the next section.

Vessel Support

Kodiak has a well-developed range of support service businesses that are primarily oriented toward commercial fishing vessel support. It is important to keep in mind, however, that many of these same businesses also support processing operations, if to a lesser degree. As noted above, there are quite a few such businesses in Kodiak; the businesses described here—marine hardware/gear supply, hydraulics, welding, marine electronics, marine mechanical, marine fuel sales, general stores, and boatyard services—are only a subset of some of the different types of support businesses present in the community and the individual firms mentioned are usually only a subset of the particular subsector noted.

Marine Hardware/Gear Supply

One type of direct fishing vessel support service is marine hardware supply, and there are at least three businesses in the community that fall in this category. These are Net Systems Inc., Kodiak Marine Supply, and Sutliff True Value Hardware. While Net Systems Inc. and Kodiak Marine Supply focus on marine equipment, Sutliff supplies a local residential market as well as the commercial fishing industry.

Net Systems produces trawl and seine web and cable, provides custom rigging and splicing services, and has a specialty in selling large-scale hardware such as load-bearing swivel as well as pumps and motors for pumps. The degree of dependency on the fishing business may be gauged by management reporting that the trawl business accounts for about 70 percent of revenues, while commercial fishing as a whole accounts for around 85 to 90 percent of Net Systems' overall business. Over the years, however, the business has seen a great deal of change related to transitions in the local fishing industry, especially the salmon industry. From the late 1980s through the mid-1990s, Net Systems reportedly employed 12 staff, but currently (2008) has 2 regular employees, a level of staffing consistent with what was reported in 2004. There has, however, been an improvement of business conditions in the last several years with a rebound of the salmon fishery, which has reportedly easily doubled seine-related business in the last few years. There is a pronounced cycle to the business with about a 10- to 20-day rushed period in January building up to the pot, jig, and longline cod fisheries and the A season pollock fishery all opening within a few days of each other. Business is relatively slow following the winter fisheries, ramping up again in early June when fishermen are gearing up for salmon openers. The largest pulse of business occurs during July and August salmon fisheries, although

rockfish effort, which used to overlap with the peak salmon season, has shifted forward in the year as a result of the implementation of the rockfish pilot rationalization program. Another peak occurs in early October for pollock reopening, but this is variable in intensity from year to year depending on how much pollock is left over from earlier seasons and the relative success of the concurrent flatfish fishery. When local Tanner seasons are open there is also some activity related to the local crab fleet gearing up in the fall.

According to a senior employee, the BSAI crab fleet never generated a lot of business for Net Systems in Kodiak as crabbers typically supplied directly out of Seattle. In the past, some last-minute items would be sold, along with some crab webbing, but as an indication of how slow these items have moved, reportedly Net Systems bought their last bale of crab web 6 or 8 years ago (long before rationalization) and still has some left. According to senior staff, the fleet consolidation that accompanied BSAI crab rationalization has not affected Net Systems direct sales, because Bering Sea crab-related business was minimal to nonexistent in the years leading up to rationalization. The business has, however, reportedly seen some indirect impacts from BSAI crab rationalization as a result of job losses among former BSAI crab boat crew members who would formerly utilize BSAI crab income to purchase gear at Net Systems for their own local multispecies vessels participating in other fisheries.

Kodiak Marine Supply carries a variety of fishing supplies and gear, commercial fishing-oriented clothing and personal items, hardware, lines, maintenance supplies, and paint, among other items. Kodiak Marine Supply averages approximately 10 employees throughout the year. There are busier and slower times of the year, with January being a busy period along with May through early June.

In terms of BSAI crab rationalization impacts, the manager of Kodiak Marine Supply related (2008) that vessel sales were lost with fleet consolidation, as were sales of personal items to crew members; however, there are no readily available data to quantify this change in sales. Some of the vessels no longer participating in the rationalized BSAI fisheries are still in the community, and some are participating in different fisheries, either directly or through tendering, so they are likely generating some business. Again, data are not available to quantify this. In general, prior to rationalization BSAI crab fisheries provided a "good blast" of business in September and were worth more in sales than was the local trawl sector. While there have been negative impacts with the loss of business, Kodiak Marine Supply is characterized by local management as "rolling, adapting" to the changes brought about by rationalization.

Sutliff True Value Hardware reports that about half its business is fishing related, while the other half of its sales include housewares, paint, clothing, building supplies, lawn and garden, and nonmarine hardware supplies. Sutliff used to carry marine supplies such as longlines, hooks, and snaps, but, as a result of rationalization of the halibut fishery, they reported that the effective removal of openings and closings has resulted in increased lead time for purchases, removing the "urgency-to-buy" prior to season openings and resulting in a shifting of purchases off-island. At the same time, internet commerce became popular, providing price-competitive alternatives and greater access to hardware and materials outside of Kodiak. Inventory now includes such things as rain gear, clothing, pumps, survival suits, boat repair tools, anchors, emergency locator beacons, and shackles rather than fishing gear *per se*. Store staff have characterized two primary busy seasons related to fishing: salmon season preparation in the early summer (when purchases are made for the immediately upcoming seasons) and salmon season cleanup in the late summer

(when purchases are made for vessel and gear repair tasks during the off-season). Summertime (June through September) is characterized as the busiest time for nonfishery sales.

In terms of impacts of BSAI crab rationalization, managers at Sutliff characterized the business as being hard-hit on two levels: one was decreased spending by local resident crab crew members who lost jobs as a result of fleet consolidation (that is spending on the entire range of inventory carried by the store) and the other was direct sales related to crabbing itself (e.g., sales of sweats, raingear, boots, and the like to crew members for use during crab fishing and crab vessel/engineer support sales such as engine maintenance-related tools, water system parts, galley supplies, and the like). While this has not resulted in a change in employment levels at the store, it has reportedly had a significant impact on the revenues generated by the store.

One common thread in previous (2004) interviews with the marine supply business sector was the observation of the changes brought about by a transition to IFQs in the halibut fishery. Before halibut IFQs were in place, personnel from each store described a rush of sales immediately before each opening during the year. After the IFQ system was in place, the rush was significantly reduced because fishermen, no longer in a race for fish, were no longer driven by the necessity of making immediate purchases. This changed the balance of the "time versus money" equation, giving fishermen the option of "waiting it out," performing price comparisons, or purchasing items off-island. It would appear that BSAI crab rationalization has extended this trend, at least to a degree. At the same time, a number of other changes were occurring that may have served to soften the traditional marine hardware market locally, including the growth of the internet, which created a new array of direct-purchase options for customers, and new entrants into related markets, such as the opening of a Wal-Mart store in the community, which occurred prior to (but relatively close to) the implementation of BSAI crab rationalization. While Wal-Mart is reportedly not a direct competitor when it comes to providing specialized marine hardware, other commercial fishing-related purchases, such as clothing, personal items, paper goods, and miscellaneous spot purchases, may be affected.

Hydraulics

There are two hydraulic shops in Kodiak that are primary providers to the local commercial fishing sector, Alaska Hydraulics and Island Hydraulics. As with the other support service businesses, these companies report that as a result of the change in "derby" style fishing seasons in some fisheries, vessel owners have more time to shop around or they may choose to make repairs themselves, leading to less work for the hydraulics businesses, less impulse types of purchases, and a more predictable flow of business, but at the expense of reducing if not eliminating some of the profitable peak demand periods. At the same time, other trends are reported that have offset these decreases.

Alaska Hydraulics, which has a full machine shop, manufactures hoses, and performs a variety of other manufacturing and repair services, has been in Kodiak since the 1970s, with a second shop in Anchorage. Alaska Hydraulics estimates that currently (2008), about 90 percent of their current business in Kodiak is fishing related, which is consistent with the figure reported in 2004. Most of the vessel support work takes place on board vessels themselves as opposed to in the shop. Most of the work is associated with trawl vessels and salmon seiners, although historically there had been a spike in activity just before local Tanner crab season (when open) and Bering Sea crab fisheries as well. Salmon-related activity results in a busy period in the early summer,

but trawl vessel work is more evenly spread throughout the year. Alaska Hydraulic also provides technical support to remote salmon sites and troubleshooting problems via phone and e-mail. Processors remain important customers for Alaska Hydraulics, with about 70 percent of the processing-related work being in the form of supplying parts, and the remaining 30 percent being field service-related tasks. Alaska Hydraulics currently (2008) employs nine persons, up from six reported in 2004, all of whom are local residents.

According to company management, Alaska Hydraulics business has grown in recent years and has not felt significant impacts from BSAI crab rationalization, due to a number of factors not directly related to crab rationalization itself. First, because of high fuel prices, more boats are staying in Kodiak rather than returning to Seattle and are getting boat work done in the community that would have otherwise taken place in Seattle. Second, the local salmon fishery has rebounded in recent years, improving that segment of the business. Third, Alaska Hydraulics gained market shares when a competitor, AIM, went out of business and the work load effectively was redistributed among remaining local firms. Fourth, a number of local vessels that did crab in the BSAI but no longer do so have remained customers as they have subsequently tendered salmon or otherwise participated in other fisheries. In other words, while direct crab business may have diminished due to BSAI crab rationalization, other variables in play occurring during the same time period have served to offset any negative impact to the facility's local bottom line.

Island Hydraulics has been in business since 1987 and includes a full machine shop, manufacturing hydraulic hoses for boats and providing repairs. Island staff report that approximately 85 percent of its business is generated through fishing/marine services, with the remaining 15 percent attributable to servicing the trucking industry. Island Hydraulics currently (2008) has three steady employees, all of whom are local residents, up from two employees reported in 2004. Consistent with a pattern reported in 2004, interview data suggest that while there is relatively steady work throughout the year, there are marked increases seen 2 weeks before each major fishing season opens as preparations for openers are made. The last half of December and early January are the busiest seasons. Within the overall commercial fleet, most work currently derives from trawl vessels, as the hydraulic equipment is larger, more complex, and more difficult for nonspecialists to repair. While this has been true for quite a number of years now, in the more distant past a higher relative volume of repair work was associated with crab and salmon seasons, although with improvements in local salmon fisheries this work has begun to increase again in recent years. Island Hydraulics also remanufactures cranes at the processing plants, though this is characterized as "a tiny portion" of their overall work. Recently the company also added a crane truck to its operation that is more than twice as large as the largest boom truck utilized by another local business. This has had the effect of diversifying Island Hydraulics' business without directly competing for the same market niche pursued by the other established business. Island Hydraulics uses their truck, for example, to pull large trawl winch motors, which require lifting capabilities beyond that of other operators. This crane truck is also too large to efficiently do pot lifting for a hauling/storage operation, which is performed by other firms in the community with smaller boom trucks.

As a result of BSAI crab rationalization and accompanying fleet consolidation, Island Hydraulics did see some impacts as "crab was a piece of the pie" for the business, but according to local management, this did not end up having an impact on the bottom line of local operations, due to the same factors listed for Alaska Hydraulics. According to Island Hydraulics management,

primary among these is the trend of more vessels staying in the community rather than running to Seattle due to high fuel prices, creating more work for the business as more major repairs are being undertaken in Kodiak than would have been the case in earlier years.

Welding

The community of Kodiak is also home to a number (at least seven, as of 2004) of different welding operations of various scales, including several independent, one-man shops. Two of the local welding shops have a specialty of servicing the fishing industry, with the larger of the two being Arc N' Spark Welding. Arc N' Spark, which began in the mid-1970s, had 9 employees as of 2008 (reportedly employing the largest number of welders in Kodiak), which is the same number as reported in 2004, down from 14 welders in the late 1980s. (Reportedly, a number of the independent welders in Kodiak gained training and experience through Arc N' Spark.) The owner of Arc N' Spark estimates that around 95 percent of their business is commercial fishing related, which is an increase in fishery dependence over what was estimated in 2004 (80 percent). Arc N' Spark has customers among vessels of all of the different commercial fleets that operate out of Kodiak, although some generate more business than others. Reportedly, king crab was an important part of the business in its early years, when Arc N' Spark built crab pots before shifting toward fabrication and repair (with no pot building occurring in almost 20 years). In addition to welding *per se*, Arc N' Spark offers tooling services, welding supply sales, boat fabrication and repair services, and services related to the use of its heavy-duty metal rolling and bending machine.

For Arc N' Spark in particular there are a number of busy and slow seasons tied to different fisheries, with busy seasons typically occurring in the month prior to openings rather than during the seasons themselves. December, a slow month for fishermen and especially processors, is a busy month for Arc N' Spark due to the multiple fishery openings in January. March and April see business ramping up again, with May being a particularly intense month due to the impending salmon seasons. June marks the end of "frantic salmon preparation." The summer and fall are less busy, with intensity picking back up again in November. During good fishing seasons there will be more in-season work than normal as heavy fishing puts more stress and strain on the gear, leading to break-downs and repairs, but generally off-season business is of greater volume than in-season business.

Arc N' Spark also operates two boom trucks used for a number of purposes, such as pulling small boats out of the water and moving fishing gear, including crab pots and salmon seines. Reportedly, this component of the business has changed in recent years, with very little crab pot movement now taking place. With a capacity to haul 17 to 20 pots per trip, Arc N' Spark reportedly sees only three to four pot hauling jobs per year at present (2008). The owner of Arc N' Spark reports that pot hauling in general is a business in decline in Kodiak, and not just for his particular business. Kodiak boats apparently tend to store more gear out west than in years past. The lower volume of Kodiak stored gear is now often handled either by local processors, using company equipment rather than a third-party hauler, or by the vessel owners themselves, many of whom have a truck and a trailer to handle their own gear.

In terms of the overall impact of BSAI crab rationalization for Arc N' Spark, with the consolidation of the crab fleet there are not only fewer vessels to work on, but there is also reportedly a good deal of surplus vessel equipment on the market now, including launchers,

lights, davits, and the like, such that that remaining vessels may not need as many services as would have otherwise been the case. Rationalization has also had an impact on inventory, as reportedly Arc N' Spark no longer stocks a number of items, such as pot hooks, throwing hooks, and bait choppers. In general, the owner of Arc N' Spark characterizes it as being difficult to turn a profit under present conditions, with BSAI crab rationalization contributing to those conditions.

The results from past projects would suggest that different welding firms may have been affected to different degrees by changes in the fishing industry over time. One welder interviewed in 2004, for example, noted that when halibut moved to an IFQ system, his company was not adversely affected even though fleet consolidation occurred. He reported that although there are fewer boats to work on, those he did still work on were larger and more complex than the average vessel before IFQs and the end result was about the same in terms of dollar value of welding work for his firm. In this case, it may be that it was inherently easier a smaller operation to adapt to changing circumstances involving a drop in volume in a particular fishery sector. Also, previous interviews (2004) would suggest that the volume of welding work was sensitive to marine fuel prices, as one interviewee noted that as fuel prices increased, the number of boats seeking welding services decreased in association with a decrease in disposable income (that is, vessel owners had a greater tendency to defer maintenance or perform do-it-yourself work). As fuel prices have recently escalated again, this may also be a factor in the overall vitality of this sector.

Marine Electronics

Support services for marine electronics on Kodiak are provided mainly by Radar Alaska, the only local shop that specializes in selling and servicing marine electronic equipment. Radar provides equipment for boats such as VHF radios, satellite phones, radars, orator boxes (for clarifying sound and blocking background noise), and the electronics for net systems. Radar management estimates that about 90 percent of its business comes from commercial fishing vessels with the remaining 10 percent deriving from sport charter vessels, which represents a shift more toward sport vessels in recent years. In terms of an annual cycle, the pattern reported in 2008 was consistent with the one reported in 2004: the shop has marked busy periods in January during the 2 weeks before the multiple season openings, for March through June when work on smaller boats increases, and December when Radar technicians make repairs and work on boats that are inactive until the seasons begin again in January. Like a number of other Kodiak support businesses, Radar's levels, particularly as measured by employment, decreased dramatically between the mid-1990s and the mid-2000s. In 1995, Radar employed seven technicians, while as of 2004 there was only one technician employed in Kodiak. In 2008, additional technician capacity included an individual who was splitting time worked between sales (two-thirds time) and technical work (one-third time). Overall, in the mid-1990s Radar had a total of 13 employees in Kodiak, whereas in 2004 there were 3 employees on-site. At present (2008), Radar has three full-time employees and one-part time employee, the latter being a high school student who works after-school hours.

In general, the overall decline in activity and employment seen since the mid-1990s has been attributed in part to changing fisheries economics (driven in part by changes in regulations, fewer people fishing, greater efficiencies, and an increase in competition from farmed fish), but also in large part to changes in electronics technology. These latter changes include improvements in

the longevity of the equipment, and the fact that the cost of electronic gear has declined to the point where replacement, rather than repair, has in many cases become more economically viable than repairing existing equipment. There has also reportedly been increased competition from catalog and internet sales. The dip in overall sales began around 1997, when computers, which used to be an anomaly on vessels, became increasingly inexpensive, common, and user friendly/plug-and-play capable. On the other hand, one fishing regulatory shift that changed the business was the move to halibut IFQs, which, according to Radar's staff, leveled out the peaks prior to each season. There is now less of a rush, and more time to set up communication systems on the boats, resulting in increased safety because the removal of derby fishing eliminates pressure to go out in times when the communications system on the boat is not working properly. On the other hand, Radar is experiencing reduced sales because consumers have more time to shop around to get the best price, which might include ordering online and having a product shipped, a luxury pre-IFQ scenarios did not always provide for, given the previous urgency of repairs and service needs.

There is some differentiation in the fleet from an electronics perspective, as groundfish trawlers tend to have more electronics on their boats compared to salmon fishermen. Radar Alaska management reported that it used to do work for the processors on side-band communication gear, but in recent years they have switched to satellite phones, which do not require the same degree of technical expertise for installation and maintenance. Additionally, plants do continue to buy equipment on behalf of the boats via purchase orders, with the boats settling with the processors at a later time. These types of sales are estimated to comprise about 10 to 15 percent of total sales. Another market for communications gear comprises set-net site owners who are also required to have a radio. Overall, approximately two-thirds of Radar's business is sales, with the remaining one-third composed of technical service and repair.

In terms of the impact of BSAI crab rationalization specifically, Radar Alaska reports that the business took a "big hit" the first year of rationalization, but more or less "acclimated" after that. With crab quota leasing and fleet consolidation, the level of business that Radar typically saw in the late summer and fall has declined, and it has not picked up since. Some vessels that previously were customers are no longer active, and this cut into business revenues, if not levels of employment. During this same span of years, however, the trawl sector has picked up at least some of the slack, with trawling activity occurring during more of the year than was previously the case. While some other businesses have reported incremental increases in sales related to vessels staying in the community more as a result of reducing or eliminating runs to Seattle for services due to high fuel costs, Radar has not seen this directly, although there have been some uptick of sales related to vessels attempting to increase fuel efficiency. For example, newer autopilots reportedly steer a better line than previous generations, factoring in to owner's decisions to upgrade their technology. According to senior Radar staff, acclimating to post-BSAI crab rationalization conditions has included watching expenses more closely to be able to reduce costs where possible, as well as seeking different fleet niches.

Marine Mechanical

Mechanical services represent yet another fishery support service sector on Kodiak. There are a few independent mechanics in Kodiak that focus on marine work, with E. Norton Inc., being one of the better known shops. In operation since 1988, with substantial investment in the enterprise in 1989 during the *Exxon Valdez* oil spill event, it specializes in propulsion, design, and

engineering of exhaust components and systems, repair of auto-baiter equipment, and repowering of jig and pot cod boats, although some business derives from the USCG as well as aircraft-related work. According to information from an interview with the shop's founder in 2004, 90 percent of the company's work was attributable to the fishing industry and, of that figure, approximately 15 percent came from charter boats; 20 percent from commercial trawlers; 10 percent from commercial longline vessels; and the remaining proportion from a combination of salmon, halibut, and miscellaneous small vessels. At present (2008), approximately 60 percent of business revenues derive from sales (and sales with services) and approximately 40 percent from straight service. The business is unique in Kodiak due to its focus on exhaust systems and cooling issues for jet units. The busy season runs from November through May, particularly during breaks between fishing seasons during these months. Earlier interviews (2004) noted that there tended to be a surge of business at year's end driven in part by tax incentives, and while this is apparently less of a specific consideration for customers at present (2008) than in the past, the 6 weeks or so between the end of IFQ halibut fishing in November and the start of cod and Tanner seasons in January is still a particularly busy window. Recent changes in business demand have included an increase in vessels repowering to improve fuel efficiency in response to rise in fuel prices.

In terms of impacts specifically attributable to BSAI crab rationalization, the owner of Norton's reported that prior to crab rationalization, approximately seven crab vessels were consistent customers whereas now (2008) none are. Prior to rationalization, approximately 25 crab vessels were reported to be at least occasional customers, while during the post-rationalization period, only 4 or 5 have been. Further, with crab there is been no more capital investments in vessel systems, with a surplus of systems available from inactive vessels. According to the owner of the business, however, crab was "never a huge part" of the business. While there have been declines in crab-related revenue, there has been an increase in specific pot cod sector-related work as well as vessel repowering jobs, including crab vessels, to meet changes in emissions requirements and to improve fuel efficiency. Also helping to diversify the business is a customer base spread over a wide geography, with sales ranging from Southeast Alaska to Sand Point and into Bristol Bay. The winter of 2007–2008 was characterized as particularly slow, although this was reportedly attributable to weather conditions, not factors specific to any particular fisheries.

Marine Fuel Sales

Marine fuel sales are also an important support business in Kodiak. There are two primary marine fueling facilities in the community, North Pacific Fuel and Petro Marine Services. Due to increased security measures following the September 11, 2001, terrorist attacks, it is no longer possible to obtain detailed information on fueling facilities, though some general information is available. Petro Marine uses a city dock to unload the fuel, which is moved by barge to the marine facility. North Pacific Fuel utilizes a terminal that reportedly began operations under Union Oil of California ownership approximately 60 years ago. Both companies deliver refined diesel products for commercial fishing-related services. In previous interviews (2004), North Pacific Fuel management estimated that about 65 percent of their annual business derives from servicing fishing vessels (with less than 5 percent linked with catcher processor vessels), while the remaining 35 percent of their sales associated with the residential market and processing plants. At present (2008), however, local management reports that it is not possible to characterize such a marine/land split with readily available data. Further, as there is not a fixed land business base, due to contracts varying annually, each year is different. In general,

however, the amount of business associated with vessels has reportedly decreased as part of a long-term trend, but the reasons behind the trend are not clear. Specifically, according to local management, it is likely that there may have been some impacts related to BSAI crab rationalization and fleet consolidation, but these, if any, have not been quantified, nor is it apparent whether crab rationalization has played a part in the longer-term trend of declining fishing fleet sales. In terms of local employment, there are 15 people employed at the local terminal and another 2 at the local gas station, with this level of employment remaining steady for the past several years. In previous interviews (2004), then-recent increases in fuel prices were reported to have affected the level of participation among local fleets. An example of this was given of one year when there was leftover pollock quota, where the price of pollock, compared to the rising cost of fuel, confined fishermen to half the catch as approximately 40 percent of the gross income was paid for fuel costs (based upon a maximum load). Similarly, according to interviews in past years, a large part of the North Pacific Fuels local marine business derived from the trawl fleet, as trawlers tend to burn more fuel than other vessels. Summer was characterized as the busiest season for vessel fuel sales, due to the salmon and pollock season activities, although there has been a substantial decline in the number of local salmon vessels fishing in the 2000s compared to the number of vessels fishing locally in the late 1990s.

General Stores

Some Kodiak businesses also support the commercial fishing sector through sales of groceries and general store supplies to the fleet. Larger grocery outlets in Kodiak include Safeway, Food-For-Less, and Wal-Mart.

The Kodiak Safeway store was specifically designed handle the logistics of being a service hub to other Kodiak region communities and as such is equally capable of handling large fleet-related orders. The store has a large storage capacity (20,000 square feet out of a total store area of 70,000 square feet), enabling the store to hold large orders of food destined for communities such as Akhiok, Old Harbor, and Ouzinkie, plus vessels and remote set-net operations. According to store management, "if vessels are homeported here, they shop here" and a number of out-of-town vessels will also shop at the store. For vessel orders, typically crew will come into the store, although sometimes a crew member will call ahead with an order (or a processing plant will send a purchase order on behalf of a vessel). For call-in orders, the store prepares and boxes grocery supplies (via an investment in cardboard boxes) and delivers the boxes to the docks at no additional cost to the customer. They can also store and refrigerate the groceries until pick-up or delivery. This flexibility and efficiency reduces downtime in between fishing trips, generating customer loyalty, but ofttimes crew prefer to come in to the store due to the ability to take the groceries with them at the time rather than waiting on a delivery schedule that may be variable if time in port is short. According to store management, grocery purchases can easily range from $200 to $8,000 per trip, per vessel.

Safeway management reports that the core of its business is the community of Kodiak, but a significant amount of the business is related to commercial fishing in some manner, and some management effort is necessary to ensure efficiency for both fishing-related and typical residential customers. For example, in-store commercial grocery purchases are conducted using a special checkout station, designed to accommodate large box orders, thereby mitigating the impact large orders could otherwise have on everyday costumers. With regard to seasonal

fluctuations, Safeway management reported that January and the May through September season are the busiest periods of the year for fisheries-related business. In general, from May through September "the whole island bubbles up" with increased business generated from tourism, lodging, and logging increases, not just fishing increases. The Tanner crab opening in January would typically generate a high level of activity, but in recent years this has not been as substantial as in previous times. Safeway management reports that the local store employs 140+ persons at present (2008), up from the 110 to 135 persons indicated in earlier (2004) interviews. Earlier (2004) interviews also indicated that the transition of halibut to an IFQ system affected the store's ability to track and predict an ebb and flow to the direct fisheries-related component of their business. Overall, as of 2004, there are noticeably fewer spikes occurring before and during the various fishery openings, with the exception of the Tanner crab season, which continued to be significant. As of 2008, Safeway management reported that while they do not have fishing-specific data, "virtually every fishery is not what it used to be" in terms of direct store sales.

In the mid-1990s, according to local management, the Kodiak store was 1 of the top 10 Safeway stores in the United States in terms of sales volume. Since that time, fishery-related demands have decreased, the residential population has remained relatively flat, and more competition has come into the market. Despite these challenges, however, local Safeway management reports that for at least the last 11 years (the tenure of the current management) sales have been up year over year on an annualized basis each year, with the exception of the year that Wal-Mart opened nearby (with sales being virtually flat that year compared to the previous year). While no longer in the U.S. top 10 for Safeway stores, local management reports that has as much to do with unrelated dynamics of change (e.g., Safeway obtaining a number of larger stores through acquisitions and increased fuel sales at other stores [the Kodiak Safeway does not sell fuel]) as anything else.

In terms of BSAI crab rationalization impacts specifically, Safeway management reports that they cannot quantify the change in terms of business dollar volume, but they do report that the customer vessel count for crab vessels is about one-quarter of what it used to be prior to rationalization and while the dollars per transaction is generally growing in the store, the dollars per transaction for crab vessels would appear to be declining (as crews appear to be more cost conscious than in the past). While average daily sales may have risen 20 percent or so during crab peaks, store management noted that these peaks were of short duration. During crab seasons prior to rationalization, Safeway staff would obtain Alaska Department of Fish and Game vessel lists and identify the vessels that Safeway could expect to see, which would typically be somewhere around 25 to 30 vessels. The store would then plan to back into a window that would last approximately 9 days before the major seasons, from the time of the first boat supplying to the last boat departing. For staffing purposes, it was assumed that around four vessels per day would shop in the store, and in general within this window the store would need to oversupply to ensure adequate service for regular local customers (and not run short on milk, eggs, bread, and other common grocery items). During this time the store could be a "sea of carts." This planning would take place 2 to 3 weeks ahead of time, and involved a substantial number of people. Now (2008) only five to six large crab vessels are anticipated to shop at the store per season, and management no longer bothers to meet to strategize, identify vessels, schedule extra staff, or order extra inventory related to crab vessel openings. While this is a marked change, Safeway management reports that crab even at its peak was a small proportion of annualized sales. In general, senior staff characterizes BSAI crab rationalization as not

hurting the grocery industry in Kodiak as people "still need to eat" and so will spend on groceries even if they need to cut back elsewhere.

Food-For-Less, an Alaska Commercial Company-owned store, is a general store located near the harbor, but according to its manager it currently (2008), unlike Safeway, does not provide a substantial amount of groceries to vessels. The store does provide duty free tobacco sales to vessels, but apparently this has been little changed. Rather, whatever impacts of BSAI crab rationalization may have been felt by Food-For-Less were more in the form of loss of income to crab crew members and their families, and the associated subsequent local household spending, rather than vessel sales *per se*. According to local management, however, any impacts to Food-For-Less have been "miniscule" relative to the overall bottom line of the store, especially as people displaced from the crab fishery were largely able to find alternative employment or sources of income such that changes in spending at the store were not apparent.

Boatyard Services

Kodiak also has a boatyard for vessel support. Fuller Boatyard is a privately owned incorporated business, which has been in operation since 1964. In 1987, the current owners purchased the business from Ted and Fern Fuller, the original owners. Currently (2008), Fuller's has one employee in addition to its owner (who fishes salmon in addition to owning the yard). Fuller's operates primarily as an open air repair facility on 4.4 acres of tidelands on the Near Island channel[46] with an inside, heated net loft on-site along with some additional warehouse space.

Fuller's services 18-foot to 96-foot-long vessels under 150 tons. They lift, launch, and store commercial fishing vessels, as well as some recreational power and sail boats. The boatyard operates three lifts and a hoist (one 25-ton Marine Travelift, one 100-ton Travelift, one 150-ton Travelift, and a 50-ton Acme Hoist) and also provides blocking. Fuller's also rents out pressure washers and welding equipment and provides 110-volt electricity for the tradesmen and vessels. Fuller's is reportedly the only boatyard in Alaska that is an "open yard" that allows vessel owners to bring in their own tradesmen to do fabrication and repairs. This yard thus serves as a facility to outside tradesmen, some of whom rent approximately half of the warehouse space in the yard, to provide welding, fiberglass work, boat repair, woodwork, interior finish work, electrical services, and other services on-site.

The capacity of the largest lift at Fuller Boatyard is well below the size of the larger vessels in the resident commercial fishing fleet, so these vessels at present must seek dry dock facilities outside the community. As discussed in a later section, the City of Kodiak is in the process of obtaining a larger lift that, according to plan, would be operated by a private entity to be determined.[47] At present (2008), Fuller's primarily services the salmon seine fleet, crab vessels, tenders, and some pot cod boats, consistent with what was reported in 2004, but overall fleet numbers are down. According to the long-time employee of the yard, there are now roughly 100 seiners working the local area that form the potential business base for that fleet, down from roughly 300 at its peak, reportedly due to attrition of smaller vessels, which in turn is attributable to changes in refrigerated

[46] The City of Kodiak, in the 1970s, sold its tidelands along the urban waterfront to private enterprise. All tidelands along the urban waterfront, with the exception of the harbor, are now privately owned, including the parcels where the seafood processors are located.

[47] As of the time of fieldwork (June 2008) a contractor other than Fuller's had been selected to run the new lift, but a formal agreement between the City and the prospective operator had not yet been executed.

seawater requirements and the practical advantages of having larger holds, combined with increased operating costs, including elevated fuel costs. The owners estimate that 99 percent of the boatyard business is associated with the commercial fishing fleet. Despite a limited lift capacity, quite a few of the boats serviced at the yard are from Washington, Oregon, or California, although this segment of the business has reportedly declined in recent years relative to local fleet business. The boat yard storage volume has been relatively stable for the past few years, after seeing declines of 50 percent or so of demand related to the noted changes in the salmon fishery as well as the consolidation of the halibut fleet under IFQ conditions. For the last several years, including the years immediately preceding BSAI crab rationalization, business has been fairly steady with about 40 vessels are stored over the winter at the yard.

In terms of the impact of BSAI crab rationalization on Fuller's boat yard, a long-time employee of the yard reported that approximately 10 local crab vessels among its customers (typically vessels in the 86 foot length range, most of which participated in the red king crab fishery) no longer actively fish rationalized crab, although they have retained their quota. These vessels, however, have reportedly remained in the community and have remained customers of the boat yard while pursuing alternate fishing opportunities (e.g., tendering), such that the boat yard has not seen declines in business directly as a result of loss of vessels. This same employee, however, reported that with the loss of local crew positions on BSAI crab vessels, the individuals who typically held these positions are spending less on their own vessels, which does translate into a reduction in the amount of work that is done at the yard.

Shipping

There are several cargo carriers with a long-term local presence that are used to ship seafood products off Kodiak Island. Two are marine shipping carriers, and two are air cargo carriers. They include Horizon Lines, Samson Tug and Barge, Alaska Airlines/ERA, and Northern Air Cargo.

Horizon Lines is a domestic carrier that has gone through a number of ownership changes in recent years. Known as Sea-Land before becoming CSX Lines, in 2002 CSX Lines was sold to the Carlyle Group, which changed the name of its domestic shipping service to Horizon Lines. In the spring of 2004, the Carlyle Group sold Horizon Lines to Castle Harlan, but the Horizon name was retained. According to Horizon management in Kodiak, the vast majority of the containers they ship from Kodiak are seafood products, but the weight of full seafood containers is significantly more than the weight of other household goods, dunnage, and autos, such that approximately 90 percent of the wharfage collected by the City of Kodiak from Horizon Lines is seafood related. While Horizon does business with all the processing plants in Kodiak, it does not service catcher-processors. Horizon operates two routes that include Kodiak. Both start in Tacoma, stop in Anchorage, and continue on to Kodiak. One route returns to Tacoma and the second travels to Dutch Harbor, where it connects with international carriers, then turns around and travels south to Tacoma. Of its seafood-related business, approximately 60 percent of all products shipped by Horizon were destined for domestic markets. Some fluctuations in shipping mode for commercial fisheries related cargo do occur during different seasons, even within individual fisheries based on market demands for different product forms, including fresh forms.

Horizon is an agent for MAERSK shipping, which provides export shipping from Dutch Harbor. Horizon also moves cargo destined for overseas shipment on American President Lines (APL) vessels.

Samson Tug and Barge operates a container hauling and break-bulk service in Kodiak. Because ships with deeper hulls cannot get into the outlying communities in the Kodiak Archipelago, Samson brings salmon and other products from remote canneries to a central location in the greater Kodiak area, and transfers the containers to larger vessels. Samson also hauls containers destined for shipment on APL out of Dutch Harbor. According to earlier (2004) interviews, Horizon contracts with Samson to haul empty containers to King Cove and Sand Point, as well as to bring cargo into and out of the small communities in the region. Processors typically use Horizon or Northern Air Cargo when shipping frozen or fresh products, while Samson is used to move cargo that does not require a 3-day turnaround. Samson does have refrigeration capacity to ship frozen products as well as dry cargo such as canned salmon. Kodiak was also served by Western Pioneer in the past, but more recently this firm sold its vessels and no longer operates a freight division.

The Port and Harbor Department of the City of Kodiak itself also acts as a support service provider for commercial fishing related activities. The department, which manages the port and its two harbors, is operated via an enterprise fund. Its purpose is to serve the commercial and recreational boat fleet by providing marine infrastructure and services. It provides customer service and billing for port and cargo operations; it coordinates scheduling and use of facilities; provides limited search and rescue within city limits; and in conjunction with other city departments provides emergency response for fire, crime, and accidents. Details of this department and the revenues port and harbor activities generate are provided in the local governance and revenues section, below.

In addition to the Port of Kodiak facilities, there is a privately operated terminal in the greater Kodiak area. Seaport Terminal Services Inc., a subsidiary of LASH[48] Corporation, operates the terminal and provides associated support services. According to 2004 interview information, the terminal presently has over 1,200 feet of dock space available. The terminal also has warehousing, yard storage, crane services with 40-ton to 150-ton cranes, 4-ton to 40-ton forklifts, trucking, waste disposal, and water. Fuel is also available through delivery from Kodiak's local distributors. Seaport maintains three mooring buoys within the "designated anchorage" in Womens Bay to provide moorage capabilities for large vessels and barges. Vessel haul-out and storage are available for most vessels up to 50 feet in length. LASH Corporation is presently developing an industrial park next to the terminal with property for sale or long-term lease.

Kodiak State Airport is located about 4 miles southwest of downtown Kodiak. The airport is owned by the USCG, is leased to the State of Alaska, and operated by the Alaska Department of Transportation and Public Facilities. In addition to linking Kodiak to Anchorage and other mainland destinations, the airport also serves as a regional hub for smaller outlying communities. With one of its runways being in excess of 7,500 feet, an instrument landing system/distance measuring equipment (ILS/DME) approach capability, and a control tower manned for 16 hours per day, Kodiak State Airport has functional passenger transportation and cargo shipping capacity far in excess of other fishing communities in the southwestern part of the state (including the other fishing communities profiled in this document [Unalaska/Dutch Harbor, Akutan, and King Cove]). While volume of product moving by air is small in proportion to the

[48] In most shipping contexts, LASH is an acronym for Lighter Aboard Ship vessels that carry multiple (approximately 90) standard size LASH barges that can be independently loaded/off-loaded and towed to and from the oceangoing ship to smaller ocean or inland waterways ports. In this case, LASH is simply an acronym for the founders of the company.

volume of product that moves by surface transport, air shipping of seafood is nonetheless an important part of the local transportation economy. For example, with the start of halibut season in 2005, one of the carriers was anticipating shipping 100,000 pounds of halibut in the first week alone. With relatively quick and reliable connections to the global air shipping capabilities found at Ted Stevens Anchorage International Airport, air shipment of fresh product from Kodiak is more economically feasible than is the case from many other rural Alaska seaports, but price/cost competition with fresh product landed at road system communities such as Homer (that can then be trucked to Anchorage and beyond) remains challenging.

Additional Characterization of Potential BSAI Crab Rationalization Impacts to Support Service Businesses

In an earlier study (Knapp 2006), quarterly sales tax data from a group of 12 Kodiak marine supply and service businesses (Alaska Hydraulics, Alaska Industrial and Marine Services, Arc N' Spark Welding, Island Hydraulics, Kodiak Marine Supply, Kodiak Metals and Supply, Kodiak Ocean Safety Services, Kodiak Service Company, Kodiak Welding and Supply, Nets Pacific, Radar Alaska, and Sutliff's Hardware) were tracked and compared to previous quarters. Table 2.4-21 updates that information through the first quarter of 2008. As shown, as a group, every quarter shows a percentage increase in sales taxes over the analogous quarter for the previous year for the range of years shown, encompassing pre- and post-BSAI crab rationalization periods, with one exception (the first quarter taxes for 2007 were lower than the first quarter taxes in 2006).

As noted in the earlier study (Knapp 2006), however, sales trends were not the same for all of these businesses. As shown in Table 2.4-22, while one of these businesses (Alaska Industrial and Marine Services) is no longer in business, of the remaining 11 firms, overall things are better in 2007/08 (the third year post rationalization) when compared to the last year pre-BSAI crab rationalization (2004/05) than they were in the first year post-rationalization (2005/06). In the fourth quarter of 2007, nine of the 11 remaining businesses showed an increase in sales (as measured by sales taxes) over the fourth quarter of 2004, and of these nine increases, eight were characterized as "big" by the City's Finance Department.[49] For the first quarter of 2008, 10 of the 11 remaining businesses showed at least some increase over the first quarter of 2005. As noted in the earlier study (Knapp 2006), "from this limited evidence [2005/06 sales compared to 2004/05 sales], it is difficult to find any clear evidence of any *major* [emphasis in original] effect of crab rationalization on Kodiak marine supply and service businesses in general." The incorporation of more recent data does not change this finding, and it is still true that although as a group there does not appear to be a dramatic or obvious decline in sales, there are likely a number of these firms are not doing the volume of sales that they otherwise might be doing in the absence of BSAI crab rationalization. Additional tables on quarterly sales for 27 "business types" since 2002 are presented in Attachment 3. These tables parallel those presented in the earlier study (Knapp 2006). As with the earlier study, these data do not show any clear impacts of BSAI crab rationalization on the different sectors illustrated.

[49] For the 2007/2008 characterization compared to the pre-rationalization baseline, "big" increases were considered to be increased sales over $100,000 because of an apparent natural break in the data at that point. For the smallest business, the $100,000 amount represented an increase of 65 percent.

Table 2.4-21. Total Sales of Twelve Kodiak Marine Supply and Services Businesses

	Year					% change from previous year			
Quarter	**2004**	**2005**	**2006**	**2007**	**2008**	**2005**	**2006**	**2007**	**2008**
1st Quarter	$2,367,140	$2,656,511	$2,925,099	$2,631,386	$3,350,469	12.2%	10.1%	-10.0%	27.3%
2nd Quarter	$3,003,710	$3,650,427	$4,207,919	$4,219,240	NA	21.5%	15.3%	0.3%	NA
3rd Quarter	$2,590,335	$3,085,760	$3,367,510	$3,804,994	NA	19.1%	9.1%	13.0%	NA
4th Quarter	$2,127,741	$2,479,691	$2,926,588	$3,308,160	NA	16.5%	18.0%	13.0%	NA
Total	$10,088,927	$11,872,389	$13,427,116	$13,963,779	NA	17.7%	13.1%	4.0%	NA

Source: Knapp 2006; City of Kodiak, Sales Tax Office 2008.

Table 2.4-22. Change in Sales Compared with the Previous Year for Twelve Kodiak Marine Supply and Service Companies

Change	Fourth Quarter 2005 compared to Fourth Quarter 2004	First Quarter 2006 compared to First Quarter 2005	Fourth Quarter 2007 compared to Fourth Quarter 2004	First Quarter 2008 compared to First Quarter 2005
Decrease of Any Size	3	4	2	1
Big Decrease	1	2	0	0
Increase of Any Size	9	7	9	10
Big Increase	"several"	6	8	1

Note: One business in the group, Alaska Industrial and Marine Services, closed in December 2006.
Source: Knapp 2006; City of Kodiak, L. Freed, personal communication 2008.

2.4.4 Local Governance and Revenues

As described above, Kodiak is home to a wide range of governmental institutions. Fishing-related revenues are an important component of overall revenues for both the city of Kodiak and the KIB. Municipal revenue information for the period 1999 through 2007 parallel to that presented for the other Alaska communities profiled is presented in Table 2.4-23. As shown, local operating revenues generated by taxes have increased each year in recent years. Shared fish taxes, a part of outside operating revenues, show a more complex pattern. Although all subsequent years are higher than the figure for 2003, the shared fish tax revenues for 2004 were higher than those for 2005 and 2006, but lower than those for 2007.

Beyond the revenue sources that accrue to the municipality directly, residents of Kodiak (like the residents of other communities on the island) derive benefits from services provided by the borough, which also funds its services in part through fishery derived revenues. The borough has a resource-based severance tax that applies to extraction of natural resources including rock, sand, and gravel as well as timber and fish. While in past years timber used to make up the majority of this revenue, borough management estimates that more recently severance tax is typically over 90 percent attributable to fish. In FY 2007, the severance tax total was $1.3 million (of which approximately 98 percent came from fish), up from $1.2 million the year before. This borough tax is designed to mirror that state raw fish tax with the taxes being applied to the transactional value at the point of extraction, based on the value paid to commercial fishermen (as part of the transaction with the processors upon landing).

In addition to the severance tax, commercial fishing related activity contributes to borough revenues in a variety of ways. For example, the borough levies both real and personal property taxes on processing plants both within and outside of incorporated municipalities. (Borough real property taxes are paid on lands and buildings, borough personal property taxes are paid on equipment within the plants, and both are assessed at 10.5 mills; the City of Kodiak does not levy personal property taxes, but levies real property taxes at a rate of 2 mills, so seafood processing plants within the city boundaries pay a combined total of 12.5 mills in real property taxes.) The borough also levies a flat tax on vessels over 5 tons, which is equivalent to a personal property tax. This tax was set at $15 per vessel per year until FY 2006 (when it generated $7,547). In 2007, the tax changed to $1 per foot on vessels over 5 tons, with a minimum tax of $30 per vessel, which generated $26,217 in revenue that year. (The intent of not taxing vessels more aggressively is to support the commercial fishing industry; the recent tax

Table 2.4-23. Kodiak Municipal Revenues 1999–2007

Revenue Source	1999	2000	2001	2002	2003	2004	2005	2006	2007
Local Operating Revenue									
Taxes	$7,377,771	$7,998,729	$7,736,345	$7,740,939	$7,879,249	$8,056,275	$8,551,379	$8,929,890	$9,223,190
License/Permits	$65,969	$44,028	$39,355	$44,628	$38,063	$54,758	$58,319	$43,064	$51,535
Service Charges	$2,522,717	$1,400,947	$1,275,700	$1,427,824	$2,050,628	$1,431,142	$1,648,405	$1,392,238	$1,472,985
Enterprise	$5,559,886	$6,315,214	$7,005,648	$6,808,064	$5,972,076	$6,644,239	$7,079,057	$7,821,403	$8,952,296
Other Local Revenue	$1,941,751	$2,105,864	$1,509,686	$1,115,994	$742,066	$241,751	$568,236	$823,852	$1,214,681
Total Local Operating Revenues	$17,508,094	$17,864,782	$17,566,734	$17,137,449	$16,682,082	$16,428,165	$17,905,396	$19,010,447	$20,914,687
Outside Operating Revenues									
Federal Operating	$0	$0	$0	$0	$0	$0	$0	$0	$0
State Revenue Sharing	$118,049	$82,265	$73,635	$68,511	$63,501	$0	$0	$0	$0
State Municipal Assistance	$332,799	$222,926	$199,391	$211,503	$203,517	$0	$0	$0	$0
State Fish Tax Sharing	$615,603	$618,504	$667,927	$889,316	$627,719	$825,995	$643,560	$712,424	$828,773
Other State Revenue	$105,844	$92,950	$100,141	$82,655	$51,667	$218,497	$80,972	$361,453	$571,393
Other Intergovernmental	$0	$0	$20,000	$0	$3,650	$0	$0	$0	$0
State/Federal Education Funds	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Outside Revenues	$1,172,295	$1,016,645	$1,061,094	$1,251,985	$950,054	$1,044,492	$724,532	$1,073,877	$1,400,166
Total Operating Revenues	$18,680,389	$18,881,427	$18,627,828	$18,389,434	$17,632,136	$17,472,657	$18,629,928	$20,084,324	$22,314,853
Operating Revenue per Capita	$2,710	$2,762	$2,941	$2,810	$2,873	$2,818	$3,060	$3,382	$3,922
State/Federal Capital Project Revenues	$7,500	$491,851	$26,683	$175,821	$1,310,547	$628,403	$1,091,153	$1,175,962	$496,946
Total All Revenues	$18,687,889	$19,373,278	$18,654,511	$18,565,255	$18,942,683	$18,101,060	$19,721,081	$21,260,286	$22,811,799
Total All Revenues (2006 Constant Dollars)	$22,613,916	$22,680,911	$21,247,172	$20,804,644	$20,754,592	$19,318,019	$20,357,245	$21,260,286	$22,184,557

Source: Personal comment, DCED, spreadsheets provided July 2008.

increase was intended to at least cover the cost of collections.) These fishery-related tax revenues, in turn, provide a range of benefits to Kodiak and the borough as a whole. The borough also exempts any and all commercial fishing gear (exclusive of vessels) from personal property tax.

The state fisheries business tax benefits both the borough and the city directly through revenue sharing, with this revenue being shared evenly between the borough and the state where the activity takes place within the borough but outside of an incorporated municipality, and split 50 percent to the state, 25 percent to the borough, and 25 percent to the city where the activity takes place within an incorporated municipality. The borough also derives revenue from the state fishery resource landing tax, which is levied on processed fishery resources first landed in Alaska, based on the unprocessed value of the resource. (This tax is primarily collected from at-sea and floating processors that process resources outside of the 3-mile limit but bring their products to Alaska for transshipment.) In the case of Kodiak, the revenues generated by this tax are modest compared to those generated by the fisheries business tax. (For example, between 1999 and 2003, the resource landing tax ranged between less than one-half of one percent to a little less than five percent of the annual fisheries business tax.)

Table 2.4-24 provides information on state fish tax revenue sharing over the FY 1976 through FY 2007 period. As shown, there were several peaks and valleys over this span of years. After a sharp decline from 2002 to 2003 and another decline from 2003 to 2004, this revenue source has seen annual increases from 2005 through 2007.

Port and Harbor Department

The Port of Kodiak has more than 650 boat slips and 3 commercial piers that can handle vessels up to 850 feet long. In addition to the freight carriers already mentioned, it also supports several freight forwarders and consolidators. The three piers include the general use/ferry pier, the city dock, and the cargo terminal pier that together support the ferries, facilities for D7 class container ships, cruise ships, commercial fishing vessel loading and off-loading, and other cargo vessels. The city operates two marinas. Saint Paul Harbor, located downtown, has 250 slips for vessels up of 24 to 60 feet in length. Saint Herman Harbor, in Dog Bay on Near Island, has 325 slips for vessels 17 feet to 150 feet in length. Overall, Kodiak has the largest mooring capacity for large fishing vessels of any port in Alaska, with over 80 slips for vessels 90 feet to 150 feet in length. Both harbors are full most of the time, with 95 percent of the occupancy coming from commercial fishing vessels, with some commercial vessels originating from Washington and Oregon. Vessels with exclusive slips pay an annual fee for moorage; all other vessels pay a daily rate. The department provides security and services 24 hours a day, 7 days a week, with 13 staff members including 8 full-time patrol officers.

The City of Kodiak is planning to upgrade their vessel support facilities in the form of a travel lift to be located on city lands adjacent to St. Herman Harbor. The city obtained a grant from the federal Economic Development Administration for this project, which is being developed with public funds rather than as a private enterprise due to the city owning the tidelands upon which it will be located (necessitating a public partnership in any event) and the capital-intensive nature of the project. The city is planning to partner with a private entity that would operate the lift and, as of June 2008, had selected an operator but had not yet formalized an agreement with that entity. At present, larger Kodiak vessels must travel outside of the community (typically to

Table 2.4-24. Kodiak Island Borough Fish Tax Revenue Sharing, 1976–2007

Fiscal Year	Raw Fish Tax
1976	$54,039
1977	$66,709
1978	$79,834
1979	$251,716
1980	$182,348
1981	$452,802
1982	$428,924
1983	$828,783
1984	$884,740
1985	$709,477
1986	$651,383
1987	$647,057
1988	$871,703
1989	$875,085
1990	$2,044,881
1991	$1,082,779
1992	$1,295,921
1993	$1,005,664
1994	$1,244,127
1995	$997,032
1996	$1,077,121
1997	$1,349,834
1998	$994,768
1999	$918,010
2000	$833,980
2001	$1,006,947
2002	$1,364,248
2003	$840,768
2004	$649,928
2005	$773,290
2006	$802,313
2007	$958,965

Source: Kodiak Island Borough spreadsheet.

Seattle) for dry dock repairs. The only local lift, at the privately owned and operated Fuller Boatyard, has a 150-ton capacity, while the new lift would have a 600-ton/38-foot-beam capacity, meaning it could service the largest of the locally owned vessels. Having a local facility would save each vessel fuel and incidental costs (such as crew expenses) involved in taking their vessels to Seward (220 miles away) or Seattle (1,000 miles away). This would save tens of thousands of dollars in round-trip fuel costs alone associated with hauling out in Seattle, and it would keep vessel service dollars circulating in the community.

With fleet consolidation that has accompanied fishery rationalization (most recently with BSAI crab rationalization) there is concern that support service demand in Kodiak will decline. It is hoped that the planned travel lift would attract business from larger Bering Sea crab boats, whether home ported in Kodiak or not, expanding the city's fishing-related economic base. Successful implementation of this project would, it is hoped, generate additional business opportunities for other Kodiak marine support service providers, such as welding, hydraulics, mechanical, and electronics service entities. According to city officials, travel lift fees would be structured in such a way as to discourage smaller vessels that now use Fuller Boatyard from using the new lift (to avoid direct competition), while at the same time offering services to larger vessels in a manner that allows a competitive advantage relative to costs for similar services in Seward. One approach the city is taking to encourage additional support service growth is planning the facility as an "open yard," allowing vessel owners to bring in mechanics and tradesmen of their choice. Further, although there is no private sector commercial activity on Near Island at present, the city is also anticipating selling or leasing land for support service business development near the planned travel lift boatyard site.

In terms of impacts of BSAI crab rationalization on harbor revenues, moorage apparently has not been adversely affected. While there are fewer large crab vessels in the community, those that are remaining are viable operations and, according to the harbormaster, able to pay their moorage fees. With the decrease in number of larger vessels, there is no longer a waiting list for the larger boats, such that, according to the harbormaster, the situation is at equilibrium now (2008). The situation is made more complex by the fact that the structure of fees has changed to increase the costs per linear foot for larger vessels and the harbor is in the process of replacing a part of their facilities such that a number of vessels are in "hot bunk" status awaiting assignment of permanent (yearly) moorage slips upon completion of new facilities as opposed to term (nonexclusive use) moorage.

Senior harbor staff did note that approximately five vessels from Kodiak were part of the crab vessel buy-back that occurred prior to rationalization and, with the consolidation that occurred post-implementation of BSAI crab rationalization, there are a number of other vessels still in the harbor that are no longer active or as active in fishing as they were prior to rationalization. While vessels in the latter category may still generate moorage fees for the harbor, they are not generating the local fuel, grocery, supply, and maintenance sales that they did when they were active in the BSAI crab fisheries. Unrelated to BSAI crab rationalization, but occurring at the same time, there have been significant impacts to the Kodiak fleet as a result of escalating fuel prices. According to the harbormaster, there are boats now seeking moorage in Kodiak that were not doing so previously due to the desire to cut unnecessary running costs. Table 2.4-25 displays Kodiak harbor revenues for 2004–2007. As shown, moorage fees have increased every year during this period as have total harbor operating revenues.

Table 2.4-25. City of Kodiak Boat Harbor Enterprise Fund Revenues, 2004–2007

Operating Revenues	2004	2005	2006	2007
Moorage	$752,550	$1,040,705	$1,183,387	$1,366,121
Pier and dock fees	$122,223	$145,923	$161,147	$205,299
Administrative fees to other funds	$70,000	$70,000	$70,000	$70,000
Other fees and charges	$149,585	$155,934	$173,896	$213,162
Rentals	$13,882	$14,021	$14,161	$14,302
Penalties and interest	$6,168	$10,798	$14,349	$10,971
Other	$0	$27,748	$0	$15,013
Total operating revenues	$1,114,408	$1,465,129	$1,616,940	$1,894,868

Source: City of Kodiak Comprehensive Annual Financial Report 2007.

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CHAPTER 3.0
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ATTACHMENT 1

ANNUAL QUANTITATIVE FISHERY DATA (1998–2007) AND QUOTA SHAREHOLDER STATISTICS

Table A1-1. Harvest Averages by BSAI Crab Fishery

Fishery	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
Pounds												
Bristol Bay Red	14,290,271	11,047,099	7,544,523	7,777,413	8,854,462	14,528,926	14,112,438	--	16,476,791	14,056,264	11,165,019	15,266,528
Bering Sea Snow	243,250,200	184,693,785	30,654,163	23,367,023	30,202,576	26,077,630	22,170,150	22,884,174	33,256,154	32,652,952	72,912,463	32,954,553
Eastern Aleutian Golden	3,247,863	3,069,886	3,134,079	3,178,653	2,821,851	2,977,055	2,886,817	--	2,567,798	2,690,665	3,045,172	2,629,232
Western Aleutian Golden	2,444,628	*	2,830,131	2,823,453	2,740,054	2,640,604	2,688,773	2,688,234	*	*	**	**
Bering Tanner East	--	--	--	--	--	--	--	--	39,500	1,399,331	--	719,416
Bering Tanner West	--	--	--	--	--	--	--	--	751,817	498,210	--	625,014
Value												
Bristol Bay Red	$37,313,764	$68,611,798	$35,483,182	$36,506,456	$54,352,063	$72,685,060	$65,600,781	--	$72,332,409	$50,918,141	$52,936,158	$61,625,275
Bering Sea Snow	$135,790,155	$179,729,517	$56,157,509	$35,516,841	$40,824,518	$46,653,533	$45,052,267	$41,021,285	$38,151,516	$47,260,007	$72,593,203	$42,705,762
Eastern Aleutian Golden	$6,013,306	$9,308,659	$10,722,820	$10,116,883	$9,611,628	$10,386,474	$9,066,683	--	$6,969,776	$5,089,923	$9,318,065	$6,029,850
Western Aleutian Golden	$4,671,104	*	$8,779,869	$8,987,395	$8,820,756	$9,005,396	$9,163,071	$8,351,033	*	*	**	**
Bering Tanner East	--	--	--	--	--	--	--	--	$59,214	$1,954,922	--	$1,007,068
Bering Tanner West	--	--	--	--	--	--	--	--	$1,090,352	$675,469	--	$882,910
Vessels												
Bristol Bay Red	274	256	244	230	241	250	251	--	89	81	249.4	85
Bering Sea Snow	229	241	231	207	190	190	189	167	78	69	205.5	73.5
Eastern Aleutian Golden	14	15	15	19	19	18	19	--	7	6	17	6.5
Western Aleutian Golden	9	3	15	12	9	6	6	6	3	3	8.3	3
Bering Tanner East	--	--	--	--	--	--	--	--	6	37	--	21.5
Bering Tanner West	--	--	--	--	--	--	--	--	43	37	--	40
Average Price per Pound												
Bristol Bay Red	$2.61	$6.21	$4.70	$4.69	$6.14	$5.00	$4.65	--	$4.39	$3.62	$4.74	$4.04
Bering Sea Snow	$0.56	$0.97	$1.83	$1.52	$1.35	$1.79	$2.03	$1.79	$1.15	$1.45	$1.00	$1.30
Eastern Aleutian Golden	$1.85	$3.03	$3.42	$3.18	$3.41	$3.49	$3.14	--	$2.71	$1.89	$3.06	$2.29
Western Aleutian Golden	$1.91	**	$3.10	$3.18	$3.22	$3.41	$3.41	$3.11	**	**	**	**
Bering Tanner East	--	--	--	--	--	--	--	--	$1.50	$1.40	--	$1.40
Bering Tanner West	--	--	--	--	--	--	--	--	$1.45	$1.36	--	$1.41
Average Value per Vessel												
Bristol Bay Red	$136,182	$268,015	$145,423	$158,724	$225,527	$290,740	$261,358	--	$812,724	$628,619	$212,230	$725,003
Bering Sea Snow	$592,970	$745,766	$243,106	$171,579	$214,866	$245,545	$238,372	$245,636	$489,122	$684,928	$353,252	$581,031
Eastern Aleutian Golden	$429,522	$620,577	$714,855	$532,468	$505,875	$577,026	$477,194	--	$995,682	$848,321	$548,121	$927,669
Western Aleutian Golden	$519,012	**	$585,325	$748,950	$980,084	$1,500,899	$1,527,178	$1,391,839	**	**	**	**
Bering Tanner East	--	--	--	--	--	--	--	--	$9,869	$52,836	--	$46,840
Bering Tanner West	--	--	--	--	--	--	--	--	$25,357	$18,256	--	$22,073

*Data suppressed due to confidentiality.
**Computation suppressed due to confidentiality of primary data.
Source: Alaska Department of Fish and Game 2008; Alaska Commercial Fisheries Entry Commission 2008.

Table A1-2a. BSAI Crab Vessel Count by Community

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
Alaska	South-Central	Anchorage												
		Bristol Bay Red	5	5	4	4	4	6	6	--	3	4	4.9	3.5
		Bering Sea Snow	4	5	5	4	3	5	5	7	2	4	4.8	3.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	1	3	--	2.0
		Big Lake												
		Bristol Bay Red	0	0	1	0	0	0	0	--	0	0	0.1	0.0
		Bering Sea Snow	0	1	0	0	0	0	0	0	0	0	0.1	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Cordova												
		Bristol Bay Red	3	2	2	2	2	2	2	--	0	0	2.1	0.0
		Bering Sea Snow	2	3	2	2	1	1	2	1	0	0	1.8	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Kenai												
		Bristol Bay Red	1	1	1	1	0	0	0	--	0	0	0.6	0.0
		Bering Sea Snow	1	1	1	1	1	0	0	0	0	0	0.6	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Homer												
		Bristol Bay Red	8	7	7	7	7	6	6	--	3	3	6.9	3.0
		Bering Sea Snow	8	7	7	7	7	6	6	3	3	2	6.4	2.5
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	1	1	--	1.0
		Bering Tanner West	--	--	--	--	--	--	--	--	1	1	--	1.0
		Seldovia												
		Bristol Bay Red	1	1	1	1	1	1	1	--	0	1	1.0	0.5
		Bering Sea Snow	1	1	1	1	1	1	1	1	1	1	1.0	1.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	1	--	0.5
		South-Central Total												
		Bristol Bay Red	*18*	*16*	*16*	*15*	*14*	*15*	*15*	--	*6*	*8*	*15.6*	*7.0*

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
		Bering Sea Snow	*16*	*18*	*16*	*15*	*13*	*13*	*14*	*12*	*6*	*7*	*14.6*	*6.5*
		Eastern Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	--	*0*	*0*	*0.0*	*0.0*
		Western Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.0*	*0.0*
		Bering Tanner East	--	--	--	--	--	--	--	--	*1*	*1*	--	*1.0*
		Bering Tanner West	--	--	--	--	--	--	--	--	*2*	*5*	--	*3.5*
	Southeast	Ketchikan												
		Bristol Bay Red	1	1	1	1	1	1	1	--	0	1	1.0	0.5
		Bering Sea Snow	2	1	1	1	1	1	1	1	0	1	1.1	0.5
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	1	--	0.5
		Bering Tanner West	--	--	--	--	--	--	--	--	0	1	--	0.5
		Petersburg												
		Bristol Bay Red	2	2	2	2	2	2	2	--	0	0	2.0	0.0
		Bering Sea Snow	2	2	2	2	2	2	2	2	0	0	2.0	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Sitka												
		Bristol Bay Red	2	1	2	2	2	2	1	--	0	0	1.7	0.0
		Bering Sea Snow	2	2	2	2	2	2	1	0	0	0	1.6	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Yakutat												
		Bristol Bay Red	1	0	1	1	1	1	1	--	0	0	0.9	0.0
		Bering Sea Snow	1	1	1	0	0	1	1	1	0	0	0.8	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Southeast Total												
		Bristol Bay Red	*6*	*4*	*6*	*6*	*6*	*6*	*5*	--	*0*	*1*	*5.6*	*0.5*
		Bering Sea Snow	*7*	*6*	*6*	*5*	*5*	*6*	*5*	*4*	*0*	*1*	*5.5*	*0.5*
		Eastern Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	--	*0*	*0*	*0.0*	*0.0*
		Western Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.0*	*0.0*
		Bering Tanner East	--	--	--	--	--	--	--	--	*0*	*1*	--	*0.5*
		Bering Tanner West	--	--	--	--	--	--	--	--	*0*	*1*	--	*0.5*
	Aleutians	Dutch Harbor / Unalaska												
		Bristol Bay Red	4	4	2	2	2	2	1	--	0	0	2.4	0.0
		Bering Sea Snow	3	3	2	2	1	2	2	1	1	0	2.0	0.5
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
		King Cove												
		Bristol Bay Red	3	3	4	2	2	2	1	--	1	1	2.4	1.0
		Bering Sea Snow	2	2	3	2	1	1	0	0	0	0	1.4	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Sand Point												
		Bristol Bay Red	1	0	1	1	0	1	1	--	0	0	0.7	0.0
		Bering Sea Snow	1	0	1	0	0	0	0	0	0	0	0.3	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Aleutians Total												
		Bristol Bay Red	*8*	*7*	*7*	*5*	*4*	*5*	*3*	--	*1*	*1*	*5.6*	*1.0*
		Bering Sea Snow	*6*	*5*	*6*	*4*	*2*	*3*	*2*	*1*	*1*	*0*	*3.6*	*0.5*
		Eastern Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	--	*0*	*0*	*0.0*	*0.0*
		Western Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.0*	*0.0*
		Bering Tanner East	--	--	--	--	--	--	--	--	*0*	*0*	--	*0.0*
		Bering Tanner West	--	--	--	--	--	--	--	--	*0*	*0*	--	*0.0*
	All Subregions (non-Kodiak)	*All Subregions (non-Kodiak)*												
		Bristol Bay Red	*32*	*27*	*29*	*26*	*24*	*26*	*23*	--	*7*	*10*	*26.7*	*8.5*
		Bering Sea Snow	*29*	*29*	*28*	*24*	*20*	*22*	*21*	*17*	*7*	*8*	*23.8*	*7.5*
		Eastern Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	--	*0*	*0*	*0.0*	*0.0*
		Western Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.0*	*0.0*
		Bering Tanner East	--	--	--	--	--	--	--	--	*1*	*2*	--	*1.5*
		Bering Tanner West	--	--	--	--	--	--	--	--	*2*	*6*	--	*4.0*
	Kodiak	Kodiak												
		Bristol Bay Red	34	30	33	32	35	34	37	--	14	11	33.6	12.5
		Bering Sea Snow	26	29	32	26	27	25	22	22	11	9	26.1	10.0
		Eastern Aleutian Golden	1	2	2	2	3	3	3	--	0	0	2.3	0.0
		Western Aleutian Golden	2	1	1	2	1	0	0	0	0	0	0.9	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	5	--	2.5
		Bering Tanner West	--	--	--	--	--	--	--	--	6	2	--	4.0
	Alaska Total	**Alaska Total**												
		Bristol Bay Red	**66**	**57**	**62**	**58**	**59**	**60**	**60**	**--**	**21**	**21**	**60.3**	**21.0**
		Bering Sea Snow	**55**	**58**	**60**	**50**	**47**	**47**	**43**	**39**	**18**	**17**	**49.9**	**17.5**
		Eastern Aleutian Golden	**1**	**2**	**2**	**2**	**3**	**3**	**3**	**--**	**0**	**0**	**2.3**	**0.0**
		Western Aleutian Golden	**2**	**1**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0.9**	**0.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1**	**7**	**--**	**4.0**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**8**	**8**	**--**	**8.0**
Washington	Seattle-Tacoma CMSA	Seattle-Tacoma CMSA												
		Bristol Bay Red	159	150	133	128	131	136	138	--	46	44	139.3	45.0
		Bering Sea Snow	130	137	117	113	99	98	102	91	44	38	110.9	41.0
		Eastern Aleutian Golden	11	11	11	15	15	14	15	--	5	4	13.1	4.5

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
		Western Aleutian Golden	5	1	11	6	5	3	3	3	2	1	4.6	1.5
		Bering Tanner East	--	--	--	--	--	--	--	--	4	22	--	13.0
		Bering Tanner West	--	--	--	--	--	--	--	--	26	20	--	23.0
	Other Washington	Other Washington												
		Bristol Bay Red	20	20	19	14	18	19	20	--	7	5	18.6	6.0
		Bering Sea Snow	18	19	17	16	15	18	18	12	3	2	16.6	2.5
		Eastern Aleutian Golden	1	1	1	1	1	1	1	--	1	1	1.0	1.0
		Western Aleutian Golden	1	0	1	1	0	0	0	0	0	0	0.4	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	1	--	0.5
		Bering Tanner West	--	--	--	--	--	--	--	--	1	1	--	1.0
	Washington Total	**Washington Total**												
		Bristol Bay Red	**179**	**170**	**152**	**142**	**149**	**155**	**158**	**--**	**53**	**49**	**157.9**	**51.0**
		Bering Sea Snow	**148**	**156**	**134**	**129**	**114**	**116**	**120**	**103**	**47**	**40**	**127.5**	**43.5**
		Eastern Aleutian Golden	**12**	**12**	**12**	**16**	**16**	**15**	**16**	**--**	**6**	**5**	**14.1**	**5.5**
		Western Aleutian Golden	**6**	**1**	**12**	**7**	**5**	**3**	**3**	**3**	**2**	**1**	**5.0**	**1.5**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4**	**23**	**--**	**13.5**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**27**	**21**	**--**	**24.0**
Oregon	**Oregon Total**	**Oregon Total**												
		Bristol Bay Red	**19**	**21**	**18**	**19**	**20**	**22**	**21**	**--**	**10**	**7**	**20.0**	**8.5**
		Bering Sea Snow	**17**	**18**	**21**	**17**	**16**	**18**	**16**	**17**	**8**	**7**	**17.5**	**7.5**
		Eastern Aleutian Golden	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**--**	**0**	**0**	**0.6**	**0.0**
		Western Aleutian Golden	**2**	**1**	**2**	**2**	**2**	**2**	**2**	**2**	**1**	**1**	**1.9**	**1.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1**	**4**	**--**	**2.5**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**7**	**5**	**--**	**6.0**
Other U.S.	**Other U.S. Total**	**Other U.S. Total**												
		Bristol Bay Red	**10**	**8**	**6**	**5**	**6**	**5**	**4**	**--**	**2**	**1**	**6.3**	**1.5**
		Bering Sea Snow	**9**	**9**	**7**	**5**	**5**	**4**	**4**	**2**	**2**	**1**	**5.6**	**1.5**
		Eastern Aleutian Golden	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**--**	**0**	**0**	**0.0**	**0**
		Western Aleutian Golden	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0**	**0.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0**	**0**	**--**	**0.0**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0**	**1**	**--**	**0.5**
All States	**All States Total**	**All States Total**												
		Bristol Bay Red	**274**	**256**	**238**	**224**	**234**	**242**	**243**	**--**	**86**	**78**	**244.4**	**82.0**
		Bering Sea Snow	**229**	**241**	**222**	**201**	**182**	**185**	**183**	**161**	**75**	**65**	**200.5**	**70.0**
		Eastern Aleutian Golden	**14**	**15**	**15**	**19**	**19**	**18**	**19**	**--**	**6**	**5**	**17.0**	**5.5**
		Western Aleutian Golden	**10**	**3**	**15**	**11**	**8**	**5**	**5**	**5**	**3**	**2**	**7.8**	**2.5**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**6**	**34**	**--**	**20.0**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**42**	**35**	**--**	**38.5**

Source: Alaska Department of Fish and Game 2008.

Table A1-2b. BSAI Crab Vessel Count Averages by Community

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
Alaska	South-Central	Anchorage												
		Bristol Bay Red	1.8	2.0	1.7	1.8	1.7	2.5	2.5	--	3.5	5.1	2.0	4.3
		Bering Sea Snow	1.7	2.1	2.3	2.0	1.6	2.7	2.7	4.3	2.7	6.2	2.4	4.3
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	2.4	8.6	--	5.2
		Big Lake												
		Bristol Bay Red	0.0	0.0	0.4	0.0	0.0	0.0	0.0	--	0.0	0.0	0.1	0.0
		Bering Sea Snow	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Cordova												
		Bristol Bay Red	1.1	0.8	0.8	0.9	0.9	0.8	0.8	--	0.0	0.0	0.9	0.0
		Bering Sea Snow	0.9	1.2	0.9	1.0	0.5	0.5	1.1	0.6	0.0	0.0	0.9	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Kenai												
		Bristol Bay Red	0.4	0.4	0.4	0.4	0.0	0.0	0.0	--	0.0	0.0	0.2	0.0
		Bering Sea Snow	0.4	0.4	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.3	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Homer												
		Bristol Bay Red	2.9	2.7	2.9	3.1	3.0	2.5	2.5	--	3.5	3.8	2.8	3.7
		Bering Sea Snow	3.5	2.9	3.2	3.5	3.8	3.2	3.3	1.9	4.0	3.1	3.2	3.6
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	16.7	2.9	--	5.0
		Bering Tanner West	--	--	--	--	--	--	--	--	2.4	2.9	--	2.6
		Seldovia												
		Bristol Bay Red	0.4	0.4	0.4	0.4	0.4	0.4	0.4	--	0.0	1.3	0.4	0.6
		Bering Sea Snow	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	1.3	1.5	0.5	1.4
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	2.9	--	1.3
		South-Central Total												
		Bristol Bay Red	*6.6*	*6.3*	*6.7*	*6.7*	*6.0*	*6.2*	*6.2*	--	*7.0*	*10.3*	*6.4*	*8.5*

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
		Bering Sea Snow	*7.0*	*7.5*	*7.2*	*7.5*	*7.1*	*7.0*	*7.7*	*7.5*	*8.0*	*10.8*	*7.3*	*9.3*
		Eastern Aleutian Golden	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	--	*0.0*	*0.0*	*0.0*	*0.0*
		Western Aleutian Golden	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
		Bering Tanner East	--	--	--	--	--	--	--	--	*16.7*	*2.9*	--	*5.0*
		Bering Tanner West	--	--	--	--	--	--	--	--	*4.8*	*14.3*	--	*9.1*
	Southeast	Ketchikan												
		Bristol Bay Red	0.4	0.4	0.4	0.4	0.4	0.4	0.4	--	0.0	1.3	0.4	0.6
		Bering Sea Snow	0.9	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.0	1.5	0.6	0.7
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	2.9	--	2.5
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	2.9	--	1.3
		Petersburg												
		Bristol Bay Red	0.7	0.8	0.8	0.9	0.9	0.8	0.8	--	0.0	0.0	0.8	0.0
		Bering Sea Snow	0.9	0.8	0.9	1.0	1.1	1.1	1.1	1.2	0.0	0.0	1.0	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Sitka												
		Bristol Bay Red	0.7	0.4	0.8	0.9	0.9	0.8	0.4	--	0.0	0.0	0.7	0.0
		Bering Sea Snow	0.9	0.8	0.9	1.0	1.1	1.1	0.5	0.0	0.0	0.0	0.8	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Yakutat												
		Bristol Bay Red	0.4	0.0	0.4	0.4	0.4	0.4	0.4	--	0.0	0.0	0.4	0.0
		Bering Sea Snow	0.4	0.4	0.5	0.0	0.0	0.5	0.5	0.6	0.0	0.0	0.4	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Southeast Total												
		Bristol Bay Red	*2.2*	*1.6*	*2.5*	*2.7*	*2.6*	*2.5*	*2.1*	--	*0.0*	*1.3*	*2.3*	*0.6*
		Bering Sea Snow	*3.1*	*2.5*	*2.7*	*2.5*	*2.7*	*3.2*	*2.7*	*2.5*	*0.0*	*1.5*	*2.7*	*0.7*
		Eastern Aleutian Golden	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	--	*0.0*	*0.0*	*0.0*	*0.0*
		Western Aleutian Golden	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
		Bering Tanner East	--	--	--	--	--	--	--	--	*0.0*	*2.9*	--	*2.5*
		Bering Tanner West	--	--	--	--	--	--	--	--	*0.0*	*2.9*	--	*1.3*
	Aleutians	Dutch Harbor / Unalaska												
		Bristol Bay Red	1.5	1.6	0.8	0.9	0.9	0.8	0.4	--	0.0	0.0	1.0	0.0
		Bering Sea Snow	1.3	1.2	0.9	1.0	0.5	1.1	1.1	0.6	1.3	0.0	1.0	0.7
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
		King Cove												
		Bristol Bay Red	1.1	1.2	1.7	0.9	0.9	0.8	0.4	--	1.2	1.3	1.0	1.2
		Bering Sea Snow	0.9	0.8	1.4	1.0	0.5	0.5	0.0	0.0	0.0	0.0	0.7	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Sand Point												
		Bristol Bay Red	0.4	0.0	0.4	0.4	0.0	0.4	0.4	--	0.0	0.0	0.3	0.0
		Bering Sea Snow	0.4	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0
		Western Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	--	0.0
		Aleutians Total												
		Bristol Bay Red	*2.9*	*2.7*	*2.9*	*2.2*	*1.7*	*2.1*	*1.2*	--	*1.2*	*1.3*	2.3	1.2
		Bering Sea Snow	*2.6*	*2.1*	*2.7*	*2.0*	*1.1*	*1.6*	*1.1*	*0.6*	*1.3*	*0.0*	1.8	0.7
		Eastern Aleutian Golden	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	--	*0.0*	*0.0*	0.0	0.0
		Western Aleutian Golden	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	*0.0*	*0.0*	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	*0.0*	*0.0*	--	0.0
	All Subregions (non-Kodiak)	*All Subregions (non-Kodiak)*												
		Bristol Bay Red	*11.7*	*10.5*	*12.2*	*11.6*	*10.3*	*10.7*	*9.5*	--	*8.1*	*12.8*	10.9	10.4
		Bering Sea Snow	*12.7*	*12.0*	*12.6*	*11.9*	*11.0*	*11.9*	*11.5*	*10.6*	*9.3*	*12.3*	11.8	10.7
		Eastern Aleutian Golden	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	--	*0.0*	*0.0*	0.0	0.0
		Western Aleutian Golden	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	*16.7*	*5.9*	--	7.5
		Bering Tanner West	--	--	--	--	--	--	--	--	*4.8*	*17.1*	--	10.4
	Kodiak	Kodiak												
		Bristol Bay Red	12.4	11.7	13.9	14.3	15.0	14.0	15.2	--	16.3	14.1	13.7	15.2
		Bering Sea Snow	11.4	12.0	14.4	12.9	14.8	13.5	12.0	13.7	14.7	13.8	13.0	14.3
		Eastern Aleutian Golden	7.1	13.3	13.3	10.5	15.8	16.7	15.8	--	0.0	0.0	13.4	0.0
		Western Aleutian Golden	20.0	33.3	6.7	18.2	12.5	0.0	0.0	0.0	0.0	0.0	11.3	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	14.7	--	12.5
		Bering Tanner West	--	--	--	--	--	--	--	--	14.3	5.7	--	10.4
	Alaska Total	**Alaska Total**												
		Bristol Bay Red	**24.1**	**22.3**	**26.1**	**25.9**	**25.2**	**24.8**	**24.7**	**--**	**24.4**	**26.9**	**24.7**	**25.6**
		Bering Sea Snow	**24.0**	**24.1**	**27.0**	**24.9**	**25.8**	**25.4**	**23.5**	**24.2**	**24.0**	**26.2**	**24.9**	**25.0**
		Eastern Aleutian Golden	**7.1**	**13.3**	**13.3**	**10.5**	**15.8**	**16.7**	**15.8**	**--**	**0.0**	**0.0**	**13.4**	**0.0**
		Western Aleutian Golden	**20.0**	**33.3**	**6.7**	**18.2**	**12.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**11.3**	**0.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**16.7**	**20.6**	**--**	**20.0**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**19.0**	**22.9**	**--**	**20.8**
Washington	Seattle-Tacoma CMSA	Seattle-Tacoma CMSA												
		Bristol Bay Red	58.0	58.6	55.9	57.1	56.0	56.2	56.8	--	53.5	56.4	57.0	54.9
		Bering Sea Snow	56.8	56.8	52.7	56.2	54.4	53.0	55.7	56.5	58.7	58.5	55.3	58.6
		Eastern Aleutian Golden	78.6	73.3	73.3	78.9	78.9	77.8	78.9	--	83.3	80.0	77.3	81.8

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
		Western Aleutian Golden	50.0	33.3	73.3	54.5	62.5	60.0	60.0	60.0	66.7	50.0	59.7	60.0
		Bering Tanner East	--	--	--	--	--	--	--	--	66.7	64.7	--	65.0
		Bering Tanner West	--	--	--	--	--	--	--	--	61.9	57.1	--	59.7
	Other Washington	Other Washington												
		Bristol Bay Red	7.3	7.8	8.0	6.3	7.7	7.9	8.2	--	8.1	6.4	7.6	7.3
		Bering Sea Snow	7.9	7.9	7.7	8.0	8.2	9.7	9.8	7.5	4.0	3.1	8.3	3.6
		Eastern Aleutian Golden	7.1	6.7	6.7	5.3	5.3	5.6	5.3	--	16.7	20.0	5.9	18.2
		Western Aleutian Golden	10.0	0.0	6.7	9.1	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	2.9	--	2.5
		Bering Tanner West	--	--	--	--	--	--	--	--	2.4	2.9	--	2.6
	Washington Total	**Washington Total**												
		Bristol Bay Red	**65.3**	**66.4**	**63.9**	**63.4**	**63.7**	**64.0**	**65.0**	**--**	**61.6**	**62.8**	**64.6**	**62.2**
		Bering Sea Snow	**64.6**	**64.7**	**60.4**	**64.2**	**62.6**	**62.7**	**65.6**	**64.0**	**62.7**	**61.5**	**63.6**	**62.1**
		Eastern Aleutian Golden	**85.7**	**80.0**	**80.0**	**84.2**	**84.2**	**83.3**	**84.2**	**--**	**100.0**	**100.0**	**83.2**	**100.0**
		Western Aleutian Golden	**60.0**	**33.3**	**80.0**	**63.6**	**62.5**	**60.0**	**60.0**	**60.0**	**66.7**	**50.0**	**64.5**	**60.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**66.7**	**67.6**	**--**	**67.5**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**64.3**	**60.0**	**--**	**62.3**
Oregon	**Oregon Total**	**Oregon Total**												
		Bristol Bay Red	**6.9**	**8.2**	**7.6**	**8.5**	**8.5**	**9.1**	**8.6**	**--**	**11.6**	**9.0**	**8.2**	**10.4**
		Bering Sea Snow	**7.4**	**7.5**	**9.5**	**8.5**	**8.8**	**9.7**	**8.7**	**10.6**	**10.7**	**10.8**	**8.7**	**10.7**
		Eastern Aleutian Golden	**7.1**	**6.7**	**6.7**	**5.3**	**0.0**	**0.0**	**0.0**	**--**	**0.0**	**0.0**	**3.4**	**0.0**
		Western Aleutian Golden	**20.0**	**33.3**	**13.3**	**18.2**	**25.0**	**40.0**	**40.0**	**40.0**	**33.3**	**50.0**	**24.2**	**40.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**16.7**	**11.8**	**--**	**12.5**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**16.7**	**14.3**	**--**	**15.6**
Other U.S.	**Other U.S. Total**	**Other U.S. Total**												
		Bristol Bay Red	**3.6**	**3.1**	**2.5**	**2.2**	**2.6**	**2.1**	**1.6**	**--**	**2.3**	**1.3**	**2.6**	**1.8**
		Bering Sea Snow	**3.9**	**3.7**	**3.2**	**2.5**	**2.7**	**2.2**	**2.2**	**1.2**	**2.7**	**1.5**	**2.8**	**2.1**
		Eastern Aleutian Golden	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**--**	**0.0**	**0.0**	**0.0**	**0.0**
		Western Aleutian Golden	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0**	**0.0**	**--**	**0.0**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.0**	**2.9**	**--**	**1.3**
All States	**All States Total**	**All States Total**												
		Bristol Bay Red	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**--**	**100.0**	**100.0**	**100.0**	**100.0**
		Bering Sea Snow	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
		Eastern Aleutian Golden	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**--**	**100.0**	**100.0**	**100.0**	**100.0**
		Western Aleutian Golden	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**100.0**	**100.0**	**--**	**100.0**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**100.0**	**100.0**	**--**	**100.0**

Source: Alaska Department of Fish and Game 2008.

Table A1-3a. BSAI Crab Catcher Vessel Harvest Volume by Community

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
Alaska	All Subregions (non-Kodiak)	Bristol Bay Red	1,237,549	1,147,427	938,891	847,751	848,783	1,226,946	1,275,652	--	1,492,608	1,395,789	1,074,714	1,444,199
		Bering Sea Snow	23,250,949	17,999,883	3,119,774	1,904,655	2,465,715	2,302,826	2,202,644	1,961,267	2,937,072	6,275,436	6,900,964	4,606,254
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0	0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0
		Bering Tanner East	--	--	--	--	--	--	--	--	*	*	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	*	59,252	--	**
	Kodiak	Bristol Bay Red	1,297,230	1,189,968	853,143	902,199	1,263,540	1,736,672	1,611,396	--	1,807,021	1,715,877	1,264,878	1,761,449
		Bering Sea Snow	23,953,304	19,912,153	3,588,875	2,404,699	3,574,069	3,205,202	2,460,563	3,140,499	2,922,280	3,915,030	7,779,921	3,418,655
		Eastern Aleutian Golden	*	*	*	*	*	*	*	--	0	0	0	0
		Western Aleutian Golden	*	*	*	*	*	0	0	0	0	0	0	0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	113,243	--	56,622
		Bering Tanner West	--	--	--	--	--	--	--	--	102,002	*	--	**
	Alaska Total	**Bristol Bay Red**	**2,534,779**	**2,337,395**	**1,792,034**	**1,749,950**	**2,112,323**	**2,963,618**	**2,887,048**	**--**	**3,299,629**	**3,111,666**	**2,339,592**	**3,205,648**
		Bering Sea Snow	**47,204,253**	**37,912,036**	**6,708,649**	**4,309,354**	**6,039,784**	**5,508,028**	**4,663,207**	**5,101,766**	**5,859,352**	**10,190,466**	**14,680,885**	**8,024,909**
		Eastern Aleutian Golden	*	*	*	*	*	*	*	--	**0**	**0**	**	**0**
		Western Aleutian Golden	*	*	*	*	*	**0**	**0**	**0**	**0**	**0**	**	**0**
		Bering Tanner East	--	--	--	--	--	--	--	--	*	*	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	*	*	--	**
Washington Total		**Bristol Bay Red**	**9,964,718**	**7,459,739**	**4,867,175**	**4,920,492**	**5,524,579**	**9,284,493**	**9,252,916**	**--**	**10,602,563**	**8,618,371**	**7,324,873**	**9,610,467**
		Bering Sea Snow	**170,375,037**	**126,862,922**	**19,155,686**	**13,664,406**	**19,147,390**	**16,502,486**	**14,315,749**	**14,403,925**	**19,534,818**	**15,537,972**	**49,303,450**	**17,536,395**
		Eastern Aleutian Golden	**2,409,697**	**2,338,356**	**2,202,494**	**2,592,414**	**2,455,371**	**2,558,748**	**2,397,996**	**--**	**2,548,282**	**2,671,367**	**2,422,154**	**2,609,825**
		Western Aleutian Golden	**662,233**	*	**845,478**	**699,832**	**774,455**	*	*	*	*	*	**372,750**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**38,176**	**741,043**	--	**389,610**
		Bering Tanner West	--	--	--	--	--	--	--	--	**572,932**	**238,926**	--	**405,929**
Oregon and Other U.S.* Total**		**Bristol Bay Red**	**1,790,774**	**1,249,965**	**675,470**	**793,173**	**918,664**	**1,600,121**	**1,366,432**	**--**	**2,021,066**	**1,634,636**	**1,199,228**	**1,827,851**
		Bering Sea Snow	**25,670,910**	**19,918,827**	**3,433,275**	**2,257,537**	**3,325,160**	**3,260,644**	**2,525,167**	**2,727,355**	**5,486,810**	**4,170,983**	**7,889,859**	**4,828,897**
		Eastern Aleutian Golden	*	*	*	*	**0**	**0**	**0**	--	**0**	**0**	**0**	**0**
		Western Aleutian Golden	*	*	*	*	*	*	*	*	*	*	**0**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	*	**463,805**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**36,620**	**179,174**	--	**107,897**
All States Total		**Bristol Bay Red**	**14,290,271**	**11,047,099**	**7,334,679**	**7,463,615**	**8,555,566**	**13,848,232**	**13,506,396**	**--**	**15,923,258**	**13,364,673**	**10,863,694**	**14,643,966**
		Bering Sea Snow	**243,250,200**	**184,693,785**	**29,297,610**	**20,231,297**	**28,512,334**	**25,271,158**	**21,504,123**	**22,233,046**	**30,880,980**	**29,899,421**	**71,874,194**	**30,390,201**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**

*Data suppressed due to confidentiality.
**Computation suppressed due to confidentiality of primary data.
***Oregon and Other U.S. combined to allow for display of otherwise confidential data for Bristol Bay Red and Bering Sea Snow.
Source: Alaska Department of Fish and Game 2008.

Table A1-3b. BSAI Crab Catcher Vessel Harvest Volume Percentages by Community

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
Alaska	All Subregions (non-Kodiak)	Bristol Bay Red	8.7	10.4	12.8	11.4	9.9	8.9	9.4	--	9.4	10.4	9.9	9.9
		Bering Sea Snow	9.6	9.7	10.6	9.4	8.6	9.1	10.2	8.8	9.5	21.0	9.6	15.2
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
	Kodiak	Bristol Bay Red	9.1	10.8	11.6	12.1	14.8	12.5	11.9	--	11.3	12.8	11.6	12.0
		Bering Sea Snow	9.8	10.8	12.2	11.9	12.5	12.7	11.4	14.1	9.5	13.1	10.8	11.2
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
	Alaska Total	**Bristol Bay Red**	**17.7**	**21.2**	**24.4**	**23.4**	**24.7**	**21.4**	**21.4**	**--**	**20.7**	**23.3**	**21.5**	**21.9**
		Bering Sea Snow	**19.4**	**20.5**	**22.9**	**21.3**	**21.2**	**21.8**	**21.7**	**22.9**	**19.0**	**34.1**	**20.4**	**26.4**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
Washington Total		**Bristol Bay Red**	**69.7**	**67.5**	**66.4**	**65.9**	**64.6**	**67.0**	**68.5**	**--**	**66.6**	**64.5**	**67.4**	**65.6**
		Bering Sea Snow	**70.0**	**68.7**	**65.4**	**67.5**	**67.2**	**65.3**	**66.6**	**64.8**	**63.3**	**52.0**	**68.6**	**57.7**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
Oregon and Other U.S.* Total**		**Bristol Bay Red**	**12.5**	**11.3**	**9.2**	**10.6**	**10.7**	**11.6**	**10.1**	**--**	**12.7**	**12.2**	**11.0**	**12.5**
		Bering Sea Snow	**10.6**	**10.8**	**11.7**	**11.2**	**11.7**	**12.9**	**11.7**	**12.3**	**17.8**	**14.0**	**11.0**	**15.9**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
All States Total		**Bristol Bay Red**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**--**	**100.0**	**100.0**	**100.0**	**100.0**
		Bering Sea Snow	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**

**Computation suppressed due to confidentiality of primary data.
***Oregon and Other U.S. combined to allow for display of otherwise confidential data for Bristol Bay Red and Bering Sea Snow.
Source: Alaska Department of Fish and Game 2008.

Table A1-4a. BSAI Crab Catcher Vessel Harvest Value by Community

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
Alaska	All Subregions (non-Kodiak)	Bristol Bay Red	$3,236,518	$7,149,807	$4,372,490	$3,987,452	$5,196,545	$6,095,885	$5,879,221	--	$6,505,986	$5,005,543	$5,131,131	$5,755,764
		Bering Sea Snow	$12,989,533	$17,519,298	$5,677,963	$2,898,706	$3,331,094	$4,134,724	$4,466,214	$3,488,705	$3,346,691	$9,269,497	$6,813,280	$6,308,094
		Eastern Aleutian Golden	$0	$0	$0	$0	$0	$0	$0	--	$0	$0	$0	$0
		Western Aleutian Golden	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		Bering Tanner East	--	--	--	--	--	--	--	--	*	*	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	*	$56,070	--	**
	Kodiak	Bristol Bay Red	$3,375,858	$7,391,323	$4,050,744	$4,203,139	$7,843,530	$8,708,171	$7,546,789	--	$8,083,690	$6,440,854	$6,159,936	$7,262,272
		Bering Sea Snow	$13,434,861	$19,403,680	$6,709,660	$3,684,297	$4,825,809	$5,470,035	$5,061,370	$5,635,204	$3,341,832	$5,785,428	$8,028,114	$4,563,630
		Eastern Aleutian Golden	*	*	*	*	*	*	*	--	$0	$0	**	$0
		Western Aleutian Golden	*	*	*	*	*	$0	$0	$0	$0	$0	**	$0
		Bering Tanner East	--	--	--	--	--	--	--	--	$0	$149,338	--	$74,669
		Bering Tanner West	--	--	--	--	--	--	--	--	$129,217	*	--	**
	Alaska Total	**Bristol Bay Red**	**$6,612,376**	**$14,541,130**	**$8,423,233**	**$8,190,591**	**$13,040,075**	**$14,804,056**	**$13,426,010**	**--**	**$14,589,676**	**$11,446,398**	**$11,291,068**	**$13,018,037**
		Bering Sea Snow	**$26,424,393**	**$36,922,978**	**$12,387,623**	**$6,583,003**	**$8,156,903**	**$9,604,759**	**$9,527,584**	**$9,123,909**	**$6,688,523**	**$15,054,925**	**$14,841,394**	**$10,871,724**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**$0**	**$0**	**	**$0**
		Western Aleutian Golden	**	**	**	**	**	**$0**	**$0**	**$0**	**$0**	**$0**	**	**$0**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
Washington Total		**Bristol Bay Red**	**$26,021,242**	**$46,303,917**	**$22,856,365**	**$23,091,670**	**$33,798,376**	**$46,450,769**	**$42,968,657**	**--**	**$46,317,875**	**$31,380,818**	**$34,498,714**	**$38,849,347**
		Bering Sea Snow	**$95,007,129**	**$123,359,977**	**$34,983,610**	**$20,687,055**	**$25,838,646**	**$29,684,599**	**$29,027,832**	**$25,845,408**	**$22,422,398**	**$22,745,856**	**$48,054,282**	**$22,584,127**
		Eastern Aleutian Golden	**$4,458,525**	**$7,072,891**	**$7,536,831**	**$8,256,486**	**$8,363,225**	**$8,934,928**	**$7,544,368**	**--**	**$6,939,800**	**$5,065,270**	**$7,452,465**	**$6,002,535**
		Western Aleutian Golden	**$1,192,775**	*	**$2,559,934**	**$2,225,305**	**$2,490,340**	*	*	*	*	*	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**$57,524**	**$1,070,053**	--	**$563,788**
		Bering Tanner West	--	--	--	--	--	--	--	--	**$863,117**	**$336,602**	--	**$599,859**
Oregon and Other U.S. * Total**		**Bristol Bay Red**	**$4,680,146**	**$7,766,751**	**$3,200,142**	**$3,755,885**	**$5,675,430**	**$7,978,148**	**$6,376,208**	**--**	**$8,933,281**	**$6,019,908**	**$5,633,244**	**$7,476,595**
		Bering Sea Snow	**$14,358,633**	**$19,446,562**	**$6,295,505**	**$3,442,454**	**$4,521,269**	**$5,898,678**	**$5,134,299**	**$4,883,827**	**$6,239,374**	**$6,145,364**	**$7,997,653**	**$6,192,369**
		Eastern Aleutian Golden	*	*	*	*	**$0**	**$0**	**$0**	--	**$0**	**$0**	**	**$0**
		Western Aleutian Golden	*	*	*	*	*	*	*	*	*	*	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	*	**$614,655**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**$45,994**	**$256,987**	--	**$151,490**
All States Total		**Bristol Bay Red**	**$37,313,764**	**$68,611,798**	**$34,479,741**	**$35,038,146**	**$52,513,881**	**$69,232,974**	**$62,770,874**	**--**	**$69,840,832**	**$48,847,124**	**$51,423,025**	**$59,343,978**
		Bering Sea Snow	**$135,790,155**	**$179,729,517**	**$53,666,737**	**$30,712,512**	**$38,516,817**	**$45,188,036**	**$43,689,714**	**$39,853,144**	**$35,350,295**	**$43,946,145**	**$70,893,329**	**$39,648,220**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**

*Data suppressed due to confidentiality.
**Computation suppressed due to confidentiality of primary data.
***Oregon and Other U.S. combined to allow for display of otherwise confidential data for Bristol Bay Red and Bering Sea Snow.
Source: Alaska Department of Fish and Game 2008; Alaska Commercial Fisheries Entry Commission 2008.

Table A1-4b. BSAI Crab Catcher Vessel Harvest Value Percentages by Community

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	Pre-Rationalization Average	Post-Rationalization Average
Alaska	All Subregions (non-Kodiak)	Bristol Bay Red	8.7	10.4	12.7	11.4	9.9	8.8	9.4	--	9.3	10.2	10.0	9.7
		Bering Sea Snow	9.6	9.7	10.6	9.4	8.6	9.2	10.2	8.8	9.5	21.1	9.6	15.9
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
	Kodiak	Bristol Bay Red	9.0	10.8	11.7	12.0	14.9	12.6	12.0	--	11.6	13.2	12.0	12.2
		Bering Sea Snow	9.9	10.8	12.5	12.0	12.5	12.1	11.6	14.1	9.5	13.2	11.3	11.5
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
	Alaska Total	**Bristol Bay Red**	**17.7**	**21.2**	**24.4**	**23.4**	**24.8**	**21.4**	**21.4**	**--**	**20.9**	**23.4**	**22.0**	**21.9**
		Bering Sea Snow	**19.5**	**20.5**	**23.1**	**21.4**	**21.2**	**21.3**	**21.8**	**22.9**	**18.9**	**34.3**	**20.9**	**27.4**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
Washington Total		**Bristol Bay Red**	**69.7**	**67.5**	**66.3**	**65.9**	**64.4**	**67.1**	**68.5**	**--**	**66.3**	**64.2**	**67.1**	**65.5**
		Bering Sea Snow	**70.0**	**68.6**	**65.2**	**67.4**	**67.1**	**65.7**	**66.4**	**64.9**	**63.4**	**51.8**	**67.8**	**57.0**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
Oregon and Other U.S.* Total**		**Bristol Bay Red**	**12.5**	**11.3**	**9.3**	**10.7**	**10.8**	**11.5**	**10.2**	**--**	**12.8**	**12.3**	**11.0**	**12.6**
		Bering Sea Snow	**10.6**	**10.8**	**11.7**	**11.2**	**11.7**	**13.1**	**11.8**	**12.3**	**17.7**	**14.0**	**11.3**	**15.6**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**
All States Total		**Bristol Bay Red**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**--**	**100.0**	**100.0**	**100.0**	**100.0**
		Bering Sea Snow	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	**	**	**	**
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	--	**

**Computation suppressed due to confidentiality of primary data.
***Oregon and Other U.S. combined to allow for display of otherwise confidential data for Bristol Bay Red and Bering Sea Snow.
Source: Alaska Department of Fish and Game 2008; Alaska Commercial Fisheries Entry Commission 2008.

Table A1-5a. BSAI Crab Vessel Harvest Diversity by Volume

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Pre-Rationalization Average (1998-2004)	Post-Rationalization Average (2006-2007)
Alaska	All Subregions (non-Kodiak)	Rationalized Crab	24,488,498	19,147,310	4,058,665	2,752,406	3,314,498	3,529,772	3,478,296	3,453,875	4,348,040	9,743,099	8,681,349	7,045,570
		Non-Rationalized Crab	1,364,487	2,132,574	648,015	988,095	1,159,801	590,943	213,208	140,892	321,265	1,677,022	1,013,875	999,144
		Groundfish	9,620,657	9,505,826	11,268,832	10,831,472	10,199,220	8,782,269	7,092,181	10,401,336	11,030,491	10,042,500	9,614,351	10,536,496
		Salmon	740,979	877,015	300,766	651,506	326,111	2,057,631	4,619,647	3,792,999	2,389,695	4,182,065	1,367,665	3,285,880
		Herring	0	0	0	0	0	0	0	0	0	0	0	0
		Halibut	552,432	641,648	617,024	753,621	758,127	522,931	382,448	469,910	456,862	0	604,033	228,431
		Other Species	6,019	53,279	8,112	2,457	18,086	523	50,168	33,139	20,918	26,026	19,806	23,472
	Kodiak	Rationalized Crab	26,767,190	22,606,814	4,876,033	3,733,898	5,255,783	5,360,181	4,560,780	5,023,184	4,664,771	6,819,689	10,451,526	5,742,230
		Non-Rationalized Crab	646,151	771,620	382,322	546,075	503,386	157,620	128,355	173,454	262,068	206,204	447,933	234,136
		Groundfish	41,912,058	44,520,051	44,520,051	51,614,543	58,944,925	62,929,355	69,679,934	64,028,281	61,031,762	51,635,078	53,445,845	56,333,420
		Salmon	0	1,245	0	803	0	0	3,453,801	0	2,292,683	538,340	493,693	1,415,512
		Herring	54,429	0	0	0	0	0	0	0	0	0	7,776	0
		Halibut	2,432,201	2,284,203	2,320,849	2,634,201	2,905,366	2,659,774	2,704,280	2,275,924	1,918,763	1,918,763	2,562,982	1,918,763
		Other Species	53,180	50,359	37,793	63,833	127,736	141,828	403,880	222,271	419,091	419,091	125,516	419,091
	Alaska Total	**Rationalized Crab**	**51,255,688**	**41,754,124**	**8,934,698**	**6,486,304**	**8,570,281**	**8,889,953**	**8,039,076**	**8,477,059**	**9,012,811**	**16,562,788**	**19,132,875**	**12,787,800**
		Non-Rationalized Crab	**2,010,638**	**2,904,194**	**1,030,337**	**1,534,170**	**1,663,187**	**748,563**	**341,563**	**314,346**	**583,333**	**1,883,226**	**1,461,807**	**1,233,280**
		Groundfish	**51,532,715**	**54,025,877**	**55,788,883**	**62,446,015**	**69,144,145**	**71,711,624**	**76,772,115**	**74,429,617**	**72,062,253**	**61,677,578**	**63,060,196**	**66,869,916**
		Salmon	**740,979**	**878,260**	**300,766**	**652,309**	**326,111**	**2,057,631**	**8,073,448**	**3,792,999**	**4,682,378**	**4,720,405**	**1,861,358**	**4,701,392**
		Herring	**54,429**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7,776**	**0**
		Halibut	**2,984,633**	**2,925,851**	**2,937,873**	**3,387,822**	**3,663,493**	**3,182,705**	**3,086,728**	**2,745,834**	**2,375,625**	**1,918,763**	**3,167,015**	**2,147,194**
		Other Species	**59,199**	**103,638**	**45,905**	**66,290**	**145,822**	**142,351**	**454,048**	**255,410**	**440,009**	**445,117**	**145,322**	**442,563**
Washington Total		**Rationalized Crab**	**183,338,398**	**136,981,071**	**26,927,950**	**22,162,911**	**27,593,665**	**28,716,080**	**26,296,105**	**28,266,702**	**31,883,758**	**28,561,065**	**64,573,740**	**30,222,412**
		Non-Rationalized Crab	**5,064,603**	**6,778,217**	**2,420,790**	**1,503,261**	**2,168,817**	**2,875,626**	**2,952,537**	**3,783,263**	**4,783,517**	**3,882,827**	**3,394,836**	**4,333,172**
		Groundfish	**489,167,072**	**504,190,620**	**605,110,132**	**663,739,943**	**690,871,965**	**674,449,446**	**699,903,753**	**704,028,277**	**736,275,546**	**527,313,036**	**618,204,704**	**631,794,291**
		Salmon	**1,510,925**	**1,810,448**	**691,467**	**487,571**	**0**	**654**	**2,472,467**	**1,714,023**	**1,040,245**	**1,364,466**	**996,219**	**1,202,356**
		Herring	**0**	**0**	**0**	**0**	**0**	**2,496**	**0**	**0**	**0**	**0**	**357**	**0**
		Halibut	**312,078**	**359,140**	**598,033**	**60,896**	**139,511**	**292,356**	**297,667**	**272,551**	**434,539**	**0**	**294,240**	**217,270**
		Other Species	**591,746**	**84,007**	**107,966**	**545,887**	**497,751**	**513,074**	**576,035**	**1,151,710**	**626,456**	**317,053**	**416,638**	**471,755**
Oregon and Other U.S.* Total**		**Rationalized Crab**	**28,534,555**	**22,249,234**	**5,743,840**	**4,497,922**	**5,676,199**	**6,684,907**	**5,899,944**	**5,599,962**	**8,024,888**	**7,437,618**	**11,326,657**	**7,731,253**
		Non-Rationalized Crab	**467,160**	**1,220,351**	**203,674**	**211,808**	**304,019**	**172,841**	**204,220**	**127,010**	**428,581**	**141,786**	**397,725**	**285,184**
		Groundfish	**40,651,800**	**48,230,011**	**49,995,887**	**60,104,033**	**60,673,351**	**64,741,019**	**69,293,332**	**70,959,848**	**66,885,511**	**51,115,899**	**56,241,348**	**59,000,705**
		Salmon	**2,461**	**2,704**	**0**	**1,073**	**0**	**481**	**0**	**0**	**0**	**0**	**960**	**0**
		Herring	**0**	**0**	**0**	**0**	**0**	**100,260**	**0**	**0**	**0**	**0**	**14,323**	**0**
		Halibut	**1,292,644**	**1,658,471**	**1,770,207**	**1,935,966**	**1,942,153**	**1,968,489**	**1,720,167**	**1,500,461**	**1,158,798**	**0**	**1,755,442**	**579,399**
		Other Species	**42,784**	**35,486**	**20,520**	**209,009**	**43,830**	**97,156**	**176,347**	**323,970**	**179,399**	**69,586**	**89,305**	**124,493**
All States Total		**Rationalized Crab**	**263,128,641**	**200,984,429**	**41,606,488**	**33,147,137**	**41,840,145**	**44,290,940**	**40,235,125**	**42,343,723**	**48,921,457**	**52,561,471**	**95,033,272**	**50,741,464**
		Non-Rationalized Crab	**7,542,401**	**10,902,762**	**3,654,801**	**3,249,239**	**4,136,023**	**3,797,030**	**3,498,320**	**4,224,619**	**5,795,431**	**5,907,839**	**5,254,368**	**5,851,635**
		Groundfish	**581,351,587**	**606,446,508**	**710,894,902**	**786,289,991**	**820,689,461**	**810,902,089**	**845,969,200**	**849,417,742**	**875,223,310**	**640,106,513**	**737,506,248**	**757,664,912**
		Salmon	**2,254,365**	**2,691,412**	**992,233**	**1,140,953**	**326,111**	**2,058,766**	**10,545,915**	**5,507,022**	**5,722,623**	**6,084,871**	**2,858,536**	**5,903,747**
		Herring	**54,429**	**0**	**0**	**0**	**0**	**102,756**	**0**	**0**	**0**	**0**	**22,455**	**0**
		Halibut	**4,589,355**	**4,943,462**	**5,306,113**	**5,384,684**	**5,745,157**	**5,443,550**	**5,104,562**	**4,518,846**	**3,968,962**	**1,918,763**	**5,216,698**	**2,943,863**
		Other Species	**693,729**	**223,131**	**174,391**	**821,186**	**687,403**	**752,581**	**1,206,430**	**1,731,090**	**1,245,864**	**831,756**	**651,264**	**1,038,810**

***Oregon and Other U.S. combined to allow for display of otherwise confidential data for Bristol Bay Red and Bering Sea Snow.
Source: Alaska Department of Fish and Game 2008.

Table A1-5b. BSAI Crab Vessel Harvest Diversity by Volume (percentage)

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Pre-Rationalization Average (1998-2004)	Post-Rationalization Average (2006-2007)
Alaska	All Subregions (non-Kodiak)	Rationalized Crab	66.6	59.2	24.0	17.2	21.0	22.8	22.0	18.9	23.4	38.0	40.8	31.9
		Non-Rationalized Crab	3.7	6.6	3.8	6.2	7.4	3.8	1.3	0.8	1.7	6.5	4.8	4.5
		Groundfish	26.2	29.4	66.7	67.8	64.7	56.7	44.8	56.9	59.4	39.1	45.1	47.6
		Salmon	2.0	2.7	1.8	4.1	2.1	13.3	29.2	20.7	12.9	16.3	6.4	14.9
		Herring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Halibut	1.5	2.0	3.7	4.7	4.8	3.4	2.4	2.6	2.5	0.0	2.8	1.0
		Other Species	0.0	0.2	0.0	0.0	0.1	0.0	0.3	0.2	0.1	0.1	0.1	0.1
		TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Kodiak	Rationalized Crab	37.2	32.2	9.4	6.4	7.8	7.5	5.6	7.0	6.6	11.1	15.5	8.7
		Non-Rationalized Crab	0.9	1.1	0.7	0.9	0.7	0.2	0.2	0.2	0.4	0.3	0.7	0.4
		Groundfish	58.3	63.4	85.4	88.1	87.0	88.3	86.1	89.3	86.5	83.9	79.1	85.3
		Salmon	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	3.2	0.9	0.7	2.1
		Herring	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Halibut	3.4	3.3	4.5	4.5	4.3	3.7	3.3	3.2	2.7	3.1	3.8	2.9
		Other Species	0.1	0.1	0.1	0.1	0.2	0.2	0.5	0.3	0.6	0.7	0.2	0.6
		TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Alaska Total	**Rationalized Crab**	**47.2**	**40.7**	**12.9**	**8.7**	**10.3**	**10.2**	**8.3**	**9.4**	**10.1**	**19.0**	**21.5**	**14.5**
		Non-Rationalized Crab	**1.9**	**2.8**	**1.5**	**2.1**	**2.0**	**0.9**	**0.4**	**0.3**	**0.7**	**2.2**	**1.6**	**1.4**
		Groundfish	**47.4**	**52.7**	**80.8**	**83.7**	**82.8**	**82.7**	**79.3**	**82.7**	**80.8**	**70.7**	**71.0**	**75.8**
		Salmon	**0.7**	**0.9**	**0.4**	**0.9**	**0.4**	**2.4**	**8.3**	**4.2**	**5.3**	**5.4**	**2.1**	**5.3**
		Herring	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Halibut	**2.7**	**2.9**	**4.3**	**4.5**	**4.4**	**3.7**	**3.2**	**3.1**	**2.7**	**2.2**	**3.6**	**2.4**
		Other Species	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.5**	**0.3**	**0.5**	**0.5**	**0.2**	**0.5**
		TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Washington Total		**Rationalized Crab**	**27.0**	**21.1**	**12.9**	**3.2**	**3.8**	**4.1**	**3.6**	**3.8**	**4.1**	**5.1**	**9.4**	**4.5**
		Non-Rationalized Crab	**0.7**	**1.0**	**1.5**	**0.2**	**0.3**	**0.4**	**0.4**	**0.5**	**0.6**	**0.7**	**0.5**	**0.6**
		Groundfish	**71.9**	**77.5**	**80.8**	**96.4**	**95.8**	**95.4**	**95.6**	**95.2**	**95.0**	**93.9**	**89.9**	**94.5**
		Salmon	**0.2**	**0.3**	**0.4**	**0.1**	**0.0**	**0.0**	**0.3**	**0.2**	**0.1**	**0.2**	**0.1**	**0.2**
		Herring	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Halibut	**0.0**	**0.1**	**4.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**
		Other Species	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**
		TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Oregon and Other U.S.* Total**		**Rationalized Crab**	**40.2**	**30.3**	**9.9**	**6.7**	**8.3**	**9.1**	**7.6**	**7.1**	**10.5**	**12.7**	**16.2**	**11.4**
		Non-Rationalized Crab	**0.7**	**1.7**	**0.4**	**0.3**	**0.4**	**0.2**	**0.3**	**0.2**	**0.6**	**0.2**	**0.6**	**0.4**
		Groundfish	**57.3**	**65.7**	**86.6**	**89.8**	**88.4**	**87.8**	**89.6**	**90.4**	**87.2**	**87.0**	**80.5**	**87.1**
		Salmon	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Herring	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Halibut	**1.8**	**2.3**	**3.1**	**2.9**	**2.8**	**2.7**	**2.2**	**1.9**	**1.5**	**0.0**	**2.5**	**0.9**
		Other Species	**0.1**	**0.0**	**0.0**	**0.3**	**0.1**	**0.1**	**0.2**	**0.4**	**0.2**	**0.1**	**0.1**	**0.2**
		TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Pre-Rationalization Average (1998-2004)	Post-Rationalization Average (2006-2007)
All States Total		**Rationalized Crab**	**30.6**	**24.3**	**5.5**	**4.0**	**4.8**	**5.1**	**4.4**	**4.7**	**5.2**	**7.4**	**11.2**	**6.2**
		Non-Rationalized Crab	**0.9**	**1.3**	**0.5**	**0.4**	**0.5**	**0.4**	**0.4**	**0.5**	**0.6**	**0.8**	**0.6**	**0.7**
		Groundfish	**67.6**	**73.4**	**93.2**	**94.7**	**94.0**	**93.5**	**93.3**	**93.6**	**93.0**	**90.5**	**87.1**	**91.9**
		Salmon	**0.3**	**0.3**	**0.1**	**0.1**	**0.0**	**0.2**	**1.2**	**0.6**	**0.6**	**0.9**	**0.3**	**0.7**
		Herring	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Halibut	**0.5**	**0.6**	**0.7**	**0.6**	**0.7**	**0.6**	**0.6**	**0.5**	**0.4**	**0.3**	**0.6**	**0.4**
		Other Species	**0.1**	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**
		TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

***Oregon and Other U.S. combined to allow for display of otherwise confidential data for Bristol Bay Red and Bering Sea Snow.
Source: Alaska Department of Fish and Game 2008.

Table A1-6a. BSAI Crab Vessel Harvest Diversity by Value

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Pre-Rationalization Average (1998-2004)	Post-Rationalization Average (2006-2007)
Alaska	All Subregions (non-Kodiak)	Rationalized Crab	$16,226,050	$24,669,105	$10,050,453	$6,886,159	$8,527,639	$10,230,609	$10,345,435	$9,994,690	$8,372,934	$23,517,929	$12,419,350	$15,945,432
		Non-Rationalized Crab	$2,088,379	$2,413,788	$1,451,952	$2,258,975	$3,351,998	$1,457,081	$342,562	$182,426	$581,487	$4,437,640	$1,909,248	$2,509,563
		Groundfish	$1,292,896	$1,803,587	$2,963,575	$2,354,777	$2,623,142	$2,566,570	$1,799,881	$2,132,660	$3,274,050	$4,109,328	$2,200,633	$3,691,689
		Salmon	$148,952	$370,416	$66,089	$83,018	$83,602	$192,463	$434,390	$452,802	$439,258	$716,336	$196,990	$577,797
		Herring	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		Halibut	$640,762	$1,246,538	$1,537,996	$1,465,676	$1,720,525	$1,482,328	$1,135,784	$1,423,655	$1,684,776	$0	$1,318,515	$842,388
		Other Species	$295	$19,281	$2,781	$55	$1,654	$7	$27,394	$16,019	$6,352	$10,179	$7,353	$8,266
	Kodiak	Rationalized Crab	$19,641,327	$31,433,399	$12,194,084	$9,237,239	$14,090,361	$15,629,752	$14,130,475	$13,807,655	$9,823,435	$17,684,284	$16,622,377	$13,753,859
		Non-Rationalized Crab	$1,232,659	$1,513,900	$1,044,606	$1,831,060	$1,042,521	$521,638	$151,211	$334,795	$566,109	$543,572	$1,048,228	$554,840
		Groundfish	$5,736,445	$9,401,304	$9,258,675	$7,462,983	$8,915,867	$10,155,338	$11,226,394	$13,237,473	$14,383,352	$10,624,028	$8,879,572	$12,503,690
		Salmon	$0	$2,221	$0	$1,121	$0	$0	$262,544	$0	$514,077	$101,209	$37,984	$307,643
		Herring	$11,485	$0	$0	$0	$0	$0	$0	$0	$0	$0	$1,641	$0
		Halibut	$2,961,880	$4,714,143	$5,822,009	$5,205,775	$6,465,897	$7,646,291	$8,015,999	$6,801,583	$7,360,711	$0	$5,833,142	$3,680,356
		Other Species	$14,229	$7,210	$4,512	$56,143	$47,824	$61,644	$208,991	$77,252	$96,145	$32,803	$57,222	$64,474
	Alaska Total	**Rationalized Crab**	**$35,867,377**	**$56,102,504**	**$22,244,537**	**$16,123,397**	**$22,618,000**	**$25,860,361**	**$24,475,910**	**$23,802,345**	**$18,196,368**	**$41,202,214**	**$29,041,727**	**$29,699,291**
		Non-Rationalized Crab	**$3,321,038**	**$3,927,688**	**$2,496,558**	**$4,090,035**	**$4,394,519**	**$1,978,719**	**$493,774**	**$517,221**	**$1,147,595**	**$4,981,212**	**$2,957,476**	**$3,064,404**
		Groundfish	**$7,029,341**	**$11,204,891**	**$12,222,250**	**$9,817,760**	**$11,539,010**	**$12,721,908**	**$13,026,275**	**$15,370,133**	**$17,657,403**	**$14,733,356**	**$11,080,205**	**$16,195,379**
		Salmon	**$148,952**	**$372,637**	**$66,089**	**$84,139**	**$83,602**	**$192,463**	**$696,934**	**$452,802**	**$953,334**	**$817,545**	**$234,974**	**$885,440**
		Herring	**$11,485**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$1,641**	**$0**
		Halibut	**$3,602,642**	**$5,960,680**	**$7,360,005**	**$6,671,451**	**$8,186,422**	**$9,128,619**	**$9,151,783**	**$8,225,238**	**$9,045,488**	**$0**	**$7,151,657**	**$4,522,744**
		Other Species	**$14,525**	**$26,491**	**$7,294**	**$56,198**	**$49,478**	**$61,652**	**$236,386**	**$93,271**	**$102,497**	**$42,982**	**$64,575**	**$72,740**
Washington Total		**Rationalized Crab**	**$126,523,831**	**$177,564,094**	**$67,676,794**	**$55,138,880**	**$69,561,502**	**$86,342,620**	**$80,567,665**	**$80,565,167**	**$60,505,463**	**$70,171,288**	**$94,767,912**	**$65,338,375**
		Non-Rationalized Crab	**$7,125,140**	**$10,349,538**	**$6,290,180**	**$3,802,707**	**$7,041,543**	**$8,999,649**	**$8,812,938**	**$12,126,897**	**$9,713,326**	**$9,894,453**	**$7,488,813**	**$9,803,889**
		Groundfish	**$34,320,234**	**$55,100,310**	**$80,216,990**	**$67,723,774**	**$79,355,473**	**$80,537,989**	**$79,689,510**	**$92,784,851**	**$108,227,316**	**$72,168,713**	**$68,134,897**	**$90,198,015**
		Salmon	**$511,448**	**$747,533**	**$273,128**	**$66,508**	**$0**	**$1,469**	**$187,907**	**$413,042**	**$261,365**	**$291,066**	**$255,427**	**$276,216**
		Herring	**$0**	**$0**	**$0**	**$0**	**$0**	**$130**	**$0**	**$0**	**$0**	**$0**	**$19**	**$0**
		Halibut	**$322,613**	**$743,417**	**$1,474,390**	**$118,747**	**$306,717**	**$836,660**	**$851,799**	**$788,468**	**$1,635,387**	**$0**	**$664,906**	**$817,693**
		Other Species	**$28,678**	**$10,271**	**$4,022**	**$10,548**	**$6,671**	**$58,355**	**$86,041**	**$54,971**	**$36,402**	**$19,249**	**$29,227**	**$27,825**
Oregon and Other U.S.* Total**		**Rationalized Crab**	**$20,995,676**	**$30,500,926**	**$15,090,325**	**$11,803,255**	**$15,048,057**	**$20,155,254**	**$17,796,710**	**$15,998,648**	**$13,984,176**	**$16,608,507**	**$18,770,029**	**$15,296,342**
		Non-Rationalized Crab	**$918,473**	**$1,186,240**	**$411,971**	**$552,963**	**$1,548,913**	**$689,171**	**$385,116**	**$246,361**	**$835,564**	**$281,603**	**$813,264**	**$558,583**
		Groundfish	**$4,480,664**	**$6,561,923**	**$8,164,753**	**$7,982,326**	**$7,875,763**	**$9,604,971**	**$9,180,960**	**$11,287,516**	**$12,259,255**	**$8,852,320**	**$7,693,051**	**$10,555,787**
		Salmon	**$4,023**	**$2,524**	**$0**	**$385**	**$0**	**$560**	**$0**	**$0**	**$0**	**$0**	**$1,070**	**$0**
		Herring	**$0**	**$0**	**$0**	**$0**	**$0**	**$22,759**	**$0**	**$0**	**$0**	**$0**	**$3,251**	**$0**
		Halibut	**$1,505,812**	**$3,342,849**	**$4,429,154**	**$3,802,394**	**$4,263,981**	**$5,650,958**	**$5,026,471**	**$4,446,313**	**$4,382,213**	**$0**	**$4,003,088**	**$2,191,107**
		Other Species	**$4,008**	**$8,089**	**$1,227**	**$2,174**	**$209**	**$27,445**	**$88,996**	**$115,990**	**$60,799**	**$23,650**	**$18,878**	**$42,225**
All States Total		**Rationalized Crab**	**$183,386,885**	**$264,167,524**	**$105,011,656**	**$83,065,532**	**$107,227,558**	**$132,358,235**	**$122,840,285**	**$120,366,160**	**$92,686,007**	**$127,982,008**	**$142,579,668**	**$110,334,008**
		Non-Rationalized Crab	**$11,364,651**	**$15,463,466**	**$9,198,709**	**$8,445,704**	**$12,984,976**	**$11,667,539**	**$9,691,827**	**$12,890,479**	**$11,696,485**	**$15,157,268**	**$11,259,553**	**$13,426,876**
		Groundfish	**$45,830,240**	**$72,867,124**	**$100,603,993**	**$85,523,860**	**$98,770,246**	**$102,864,868**	**$101,896,745**	**$119,442,500**	**$138,143,973**	**$95,754,389**	**$86,908,154**	**$116,949,181**
		Salmon	**$664,423**	**$1,122,694**	**$339,217**	**$151,032**	**$83,602**	**$194,492**	**$884,841**	**$865,844**	**$1,214,700**	**$1,108,611**	**$491,472**	**$1,161,655**
		Herring	**$11,485**	**$0**	**$0**	**$0**	**$0**	**$22,889**	**$0**	**$0**	**$0**	**$0**	**$4,910**	**$0**
		Halibut	**$5,431,066**	**$10,046,946**	**$13,263,549**	**$10,592,592**	**$12,757,120**	**$15,616,237**	**$15,030,053**	**$13,460,020**	**$15,063,088**	**$0**	**$11,819,652**	**$7,531,544**
		Other Species	**$47,211**	**$44,852**	**$12,543**	**$68,920**	**$56,358**	**$147,452**	**$411,422**	**$264,232**	**$199,698**	**$85,881**	**$112,680**	**$142,790**

***Oregon and Other U.S. combined to allow for display of otherwise confidential data for Bristol Bay Red and Bering Sea Snow.
Source: Alaska Department of Fish and Game 2008; Alaska Commercial Fisheries Entry Commission 2008.

Table A1-6b. BSAI Crab Vessel Harvest Diversity by Value (percentage)

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Pre-Rationalization Average (1998-2004)	Post-Rationalization Average (2006-2007)
Alaska	All Subregions (non-Kodiak)	Rationalized Crab	79.5	80.8	62.5	52.8	52.3	64.2	73.4	70.4	58.3	71.7	68.8	67.6
		Non-Rationalized Crab	10.2	7.9	9.0	17.3	20.6	9.1	2.4	1.3	4.0	13.5	10.6	10.6
		Groundfish	6.3	5.9	18.4	18.0	16.1	16.1	12.8	15.0	22.8	12.5	12.2	15.7
		Salmon	0.7	1.2	0.4	0.6	0.5	1.2	3.1	3.2	3.1	2.2	1.1	2.5
		Herring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Halibut	3.1	4.1	9.6	11.2	10.5	9.3	8.1	10.0	11.7	0.0	7.3	3.6
		Other Species	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0
		TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Kodiak	Rationalized Crab	66.4	66.8	43.1	38.8	46.1	46.0	41.6	40.3	30.0	61.0	51.2	44.6
		Non-Rationalized Crab	4.2	3.2	3.7	7.7	3.4	1.5	0.4	1.0	1.7	1.9	3.2	1.8
		Groundfish	19.4	20.0	32.7	31.4	29.2	29.9	33.0	38.6	43.9	36.7	27.3	40.5
		Salmon	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.6	0.3	0.1	1.0
		Herring	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		Halibut	10.0	10.0	20.6	21.9	21.2	22.5	23.6	19.9	22.5	0.0	18.0	11.9
		Other Species	0.0	0.0	0.0	0.2	0.2	0.2	0.6	0.2	0.3	0.1	0.2	0.2
		TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Alaska Total	**Rationalized Crab**	**71.7**	**72.3**	**50.1**	**43.8**	**48.3**	**51.8**	**50.9**	**49.1**	**38.6**	**66.7**	**57.5**	**54.6**
		Non-Rationalized Crab	**6.6**	**5.1**	**5.6**	**11.1**	**9.4**	**4.0**	**1.0**	**1.1**	**2.4**	**8.1**	**5.9**	**5.6**
		Groundfish	**14.1**	**14.4**	**27.5**	**26.6**	**24.6**	**25.5**	**27.1**	**31.7**	**37.5**	**23.8**	**21.9**	**29.7**
		Salmon	**0.3**	**0.5**	**0.1**	**0.2**	**0.2**	**0.4**	**1.4**	**0.9**	**2.0**	**1.3**	**0.5**	**1.6**
		Herring	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Halibut	**7.2**	**7.7**	**16.6**	**18.1**	**17.5**	**18.3**	**19.0**	**17.0**	**19.2**	**0.0**	**14.2**	**8.3**
		Other Species	**0.0**	**0.0**	**0.0**	**0.2**	**0.1**	**0.1**	**0.5**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**
		TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Washington Total		**Rationalized Crab**	**74.9**	**72.6**	**43.4**	**43.5**	**44.5**	**48.8**	**47.3**	**43.1**	**33.5**	**46.0**	**55.3**	**39.3**
		Non-Rationalized Crab	**4.2**	**4.2**	**4.0**	**3.0**	**4.5**	**5.1**	**5.2**	**6.5**	**5.4**	**6.5**	**4.4**	**5.9**
		Groundfish	**20.3**	**22.5**	**51.4**	**53.4**	**50.8**	**45.6**	**46.8**	**49.7**	**60.0**	**47.3**	**39.8**	**54.2**
		Salmon	**0.3**	**0.3**	**0.2**	**0.1**	**0.0**	**0.0**	**0.1**	**0.2**	**0.1**	**0.2**	**0.1**	**0.2**
		Herring	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Halibut	**0.2**	**0.3**	**0.9**	**0.1**	**0.2**	**0.5**	**0.5**	**0.4**	**0.9**	**0.0**	**0.4**	**0.5**
		Other Species	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Oregon and Other U.S.* Total**		**Rationalized Crab**	**75.2**	**73.3**	**53.7**	**48.9**	**52.4**	**55.8**	**54.8**	**49.8**	**44.4**	**64.5**	**60.0**	**53.4**
		Non-Rationalized Crab	**3.3**	**2.9**	**1.5**	**2.3**	**5.4**	**1.9**	**1.2**	**0.8**	**2.7**	**1.1**	**2.6**	**2.0**
		Groundfish	**16.1**	**15.8**	**29.1**	**33.1**	**27.4**	**26.6**	**28.3**	**35.2**	**38.9**	**34.4**	**24.6**	**36.9**
		Salmon	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Herring	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Halibut	**5.4**	**8.0**	**15.8**	**15.7**	**14.8**	**15.6**	**15.5**	**13.9**	**13.9**	**0.0**	**12.8**	**7.6**
		Other Species	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.3**	**0.4**	**0.2**	**0.1**	**0.1**	**0.1**
		TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Pre-Rationalization Average (1998-2004)	Post-Rationalization Average (2006-2007)
All States Total		**Rationalized Crab**	**74.3**	**72.6**	**46.0**	**44.2**	**46.2**	**50.4**	**49.0**	**45.0**	**35.8**	**53.3**	**56.3**	**44.2**
		Non-Rationalized Crab	**4.6**	**4.3**	**4.0**	**4.5**	**5.6**	**4.4**	**3.9**	**4.8**	**4.5**	**6.3**	**4.4**	**5.4**
		Groundfish	**18.6**	**20.0**	**44.0**	**45.5**	**42.6**	**39.1**	**40.6**	**44.7**	**53.3**	**39.9**	**34.3**	**46.9**
		Salmon	**0.3**	**0.3**	**0.1**	**0.1**	**0.0**	**0.1**	**0.4**	**0.3**	**0.5**	**0.5**	**0.2**	**0.5**
		Herring	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
		Halibut	**2.2**	**2.8**	**5.8**	**5.6**	**5.5**	**5.9**	**6.0**	**5.0**	**5.8**	**0.0**	**4.7**	**3.0**
		Other Species	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.2**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**
		TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

***Oregon and Other U.S. combined to allow for display of otherwise confidential data for Bristol Bay Red and Bering Sea Snow.
Source: Alaska Department of Fish and Game 2008; Alaska Commercial Fisheries Entry Commission 2008.

Table A1-7. BSAI Crab Processor Count by Community

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Pre-Rationalization Average	Post-Rationalization Average
Alaska	South-Central	Cordova												
		Bristol Bay Red	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Bering Sea Snow	0	0	0	1	0	0	0	0	0	0	0.1	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Ninilchik												
		Bristol Bay Red	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Bering Sea Snow	1	0	0	0	0	0	0	0	0	0	0.1	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Wasilla												
		Bristol Bay Red	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Bering Sea Snow	1	0	0	0	0	0	0	0	0	0	0.1	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		South-Central Total												
		Bristol Bay Red	*0*	*0*	*0*	*0*	*0*	*0*	*0*	--	*0*	*0*	*0.0*	*0.0*
		Bering Sea Snow	*2*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0.4*	*0.0*
		Eastern Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	--	*0*	*0*	*0.0*	*0.0*
		Western Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.0*	*0.0*
		Bering Tanner East	--	--	--	--	--	--	--	--	*0*	*0*	--	*0.0*
		Bering Tanner West	--	--	--	--	--	--	--	--	*0*	*0*	--	*0.0*
	Southeast	Sitka												
		Bristol Bay Red	0	0	0	0	0	0	0	--	1	0	0.0	0.5
		Bering Sea Snow	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Southeast Total												
		Bristol Bay Red	*0*	*0*	*0*	*0*	*0*	*0*	*0*	--	*1*	*0*	*0.0*	*0.5*
		Bering Sea Snow	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.0*	*0.0*
		Eastern Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	--	*0*	*0*	*0.0*	*0.0*
		Western Aleutian Golden	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.0*	*0.0*
		Bering Tanner East	--	--	--	--	--	--	--	--	*0*	*0*	--	*0.0*
		Bering Tanner West	--	--	--	--	--	--	--	--	*0*	*0*	--	*0.0*
	Aleutians	Adak												
		Bristol Bay Red	0	0	0	1	0	0	0	--	0	0	0.1	0.0

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Pre-Rationalization Average	Post-Rationalization Average
		Bering Sea Snow	0	0	1	0	0	0	0	0	0	0	0.1	0.0
		Eastern Aleutian Golden	0	0	1	1	1	2	1	--	0	0	0.9	0.0
		Western Aleutian Golden	0	0	2	4	3	1	3	2	2	1	1.9	1.5
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		Akutan												
		Bristol Bay Red	1	1	1	1	1	1	1	--	1	1	1.0	1.0
		Bering Sea Snow	1	1	1	1	0	1	1	1	1	1	0.9	1.0
		Eastern Aleutian Golden	0	1	0	0	0	0	0	--	0	1	0.1	0.5
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	1	--	0.5
		Bering Tanner West	--	--	--	--	--	--	--	--	1	1	--	1.0
		Dutch Harbor/Unalaska												
		Bristol Bay Red	7	6	5	6	6	7	6	--	4	5	6.1	4.5
		Bering Sea Snow	9	9	6	6	5	6	6	6	7	8	6.6	7.5
		Eastern Aleutian Golden	6	4	3	3	3	3	3	--	3	4	3.6	3.5
		Western Aleutian Golden	4	2	4	4	3	2	2	2	2	2	2.9	2.0
		Bering Tanner East	--	--	--	--	--	--	--	--	2	6	--	4.0
		Bering Tanner West	--	--	--	--	--	--	--	--	5	5	--	5.0
		King Cove												
		Bristol Bay Red	1	1	1	1	2	3	1	--	1	3	1.4	2.0
		Bering Sea Snow	1	1	2	1	1	1	1	1	1	1	1.1	1.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	1	--	0.5
		Bering Tanner West	--	--	--	--	--	--	--	--	1	1	--	1.0
		Sand Point												
		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0.4	0.0
		Bering Sea Snow	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	--	0.0
		St. Paul												
		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	0.4	1.0
		Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	2.0	1.5
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	1	0	--	0.5
		Bering Tanner West	--	--	--	--	--	--	--	--	2	0	--	1.0
		Aleutians Total												
		Bristol Bay Red	*10*	*9*	*7*	*9*	*10*	*13*	*9*	--	*7*	*10*	*9.6*	*8.5*
		Bering Sea Snow	*13*	*13*	*12*	*10*	*8*	*10*	*10*	*10*	*11*	*11*	*10.8*	*11.0*
		Eastern Aleutian Golden	*6*	*5*	*4*	*4*	*4*	*5*	*4*	--	*3*	*5*	*4.6*	*4.0*
		Western Aleutian Golden	*4*	*2*	*6*	*8*	*6*	*3*	*5*	*4*	*4*	*3*	*4.8*	*3.5*
		Bering Tanner East	--	--	--	--	--	--	--	--	*3*	*8*	--	*5.5*

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Pre-Rationalization Average	Post-Rationalization Average
		Bering Tanner West	--	--	--	--	--	--	--	--	*9*	*7*	--	*8.0*
	Kodiak	Kodiak												
		Bristol Bay Red	1	3	8	8	3	4	4	--	3	3	4.4	3.0
		Bering Sea Snow	2	1	3	1	4	1	2	1	2	2	1.9	2.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0.0	0.0
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	1	0	--	0.5
	Alaska Total	**Alaska Total**												
		Bristol Bay Red	**11**	**12**	**15**	**17**	**13**	**17**	**13**	**--**	**11**	**13**	**14.0**	**12.0**
		Bering Sea Snow	**17**	**14**	**15**	**12**	**12**	**11**	**12**	**11**	**13**	**13**	**13.0**	**13.0**
		Eastern Aleutian Golden	**6**	**5**	**4**	**4**	**4**	**5**	**4**	**--**	**3**	**5**	**4.6**	**4.0**
		Western Aleutian Golden	**4**	**2**	**6**	**8**	**6**	**3**	**5**	**4**	**4**	**3**	**4.8**	**3.5**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**3**	**8**	**--**	**5.5**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**10**	**7**	**--**	**8.5**
Floating Catcher Processors		**Floating Catcher Processors Total**												
		Bristol Bay Red	**0**	**0**	**6**	**6**	**10**	**8**	**8**	**--**	**4**	**3**	**5.4**	**3.5**
		Bering Sea Snow	**0**	**0**	**9**	**7**	**8**	**5**	**6**	**6**	**4**	**4**	**5.1**	**4.0**
		Eastern Aleutian Golden	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**--**	**1**	**1**	**0.0**	**1.0**
		Western Aleutian Golden	**0**	**0**	**1**	**1**	**2**	**2**	**1**	**1**	**1**	**1**	**1.0**	**1.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0**	**3**	**--**	**1.5**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1**	**2**	**--**	**1.5**
Inshore Stationary Floating Processors		**Inshore Stationary Floating Processors Total**												
		Bristol Bay Red	**0**	**0**	**3**	**3**	**3**	**5**	**4**	**--**	**1**	**1**	**2.6**	**1.0**
		Bering Sea Snow	**0**	**0**	**8**	**6**	**6**	**6**	**6**	**3**	**4**	**9**	**4.4**	**6.5**
		Eastern Aleutian Golden	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**--**	**1**	**0**	**0.0**	**0.5**
		Western Aleutian Golden	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0.0**	**1.5**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1**	**0**	**--**	**0.5**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**3**	**1**	**--**	**2.0**
Unknown		**Unknown Total**												
		Bristol Bay Red	**18**	**11**	**0**	**0**	**0**	**0**	**0**	**--**	**0**	**0**	**4.1**	**0.0**
		Bering Sea Snow	**36**	**28**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8.0**	**0.0**
		Eastern Aleutian Golden	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**--**	**0**	**0**	**0.4**	**0.0**
		Western Aleutian Golden	**4**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0.9**	**0.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0**	**0**	**--**	**0.0**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0**	**0**	**--**	**0.0**
All Processors		**All Processors Total**												
		Bristol Bay Red	**29**	**23**	**24**	**26**	**26**	**30**	**25**	**--**	**16**	**17**	**26.1**	**16.5**
		Bering Sea Snow	**53**	**42**	**32**	**25**	**26**	**22**	**24**	**20**	**21**	**26**	**30.5**	**23.5**
		Eastern Aleutian Golden	**7**	**7**	**4**	**4**	**4**	**5**	**4**	**--**	**5**	**6**	**5.0**	**5.5**
		Western Aleutian Golden	**8**	**3**	**9**	**9**	**8**	**5**	**6**	**5**	**8**	**4**	**6.6**	**6.0**
		Bering Tanner East	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**4**	**11**	**--**	**7.5**
		Bering Tanner West	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**14**	**10**	**--**	**12.0**

Source: Alaska Department of Fish and Game 2008.

Table A1-8. CVO Shares – Initial Allocation and 2008-2009 Quota Shareholders

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
Alaska	Anchorage	Bristol Bay Red	N	0	0	0.0	2	338,410	3.6
			S	8	11,675,744	3.2	23	27,561,978	7.6
		Bering Sea Snow	N	8	11,479,448	2.8	16	21,497,595	5.2
			S	8	12,955,234	2.7	19	44,580,194	9.5
		Bering Sea Tanner	U	8	2,666,137	1.5	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	6	2,961,237	32.1
		Western Aleutian Golden	U	0	0	0.0	5	2,484,898	23.8
			W	0	0	0.0	4	2,179,568	20.9
		Bering Tanner East	U	6	2,374,161	1.3	20	11,949,367	6.6
		Bering Tanner West	U	6	2,374,161	1.3	20	11,981,658	6.6
		Pribilof Is. Blue/Red	N	5	1,864,355	9.2	7	1,322,894	6.8
			S	3	211,621	2.2	7	658,300	7.0
		St. Matthew Blue	N	2	514,558	2.3	13	1,126,634	5.0
			S	2	363,005	5.8	9	1,139,001	18.2
		Western Aleutian Red	S	2	848,618	2.4	7	1,866,202	5.3
	Dillingham	Bristol Bay Red	N	0	0	0.0	1	50,330	0.5
			S	1	3,307,771	0.9	2	4,770,587	1.3
		Bering Sea Snow	N	1	7,561,480	1.8	2	9,603,685	2.3
			S	1	700,244	0.1	2	2,767,085	0.6
		Bering Sea Tanner	U	1	1,551,453	0.9	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	2	1,832,451	1.0	2	1,832,451	1.0
		Bering Tanner West	U	1	1,832,451	1.0	1	1,832,451	1.0
		Pribilof Is. Blue/Red	N	1	701,376	3.5	1	701,376	3.6
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	1	189,939	0.8	1	189,939	0.8
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	1	57,776	0.2	1	57,776	0.2
	Homer	Bristol Bay Red	N	1	765,462	8.1	1	574,097	6.1
			S	3	4,904,358	1.4	3	5,421,320	1.5
		Bering Sea Snow	N	3	12,744,558	3.1	4	13,355,897	3.2
			S	3	2,590,592	0.5	4	3,673,724	0.8

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
		Bering Sea Tanner	U	3	2,922,441	1.6	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	4	3,571,507	1.9	4	3,401,456	1.9
		Bering Tanner West	U	4	3,571,507	1.9	4	3,401,456	1.9
		Pribilof Is. Blue/Red	N	3	1,982,206	9.8	4	1,982,206	10.1
			S	3	129,696	1.4	5	482,697	5.1
		St. Matthew Blue	N	0	0	0.0	1	132,216	0.6
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	King Cove	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	927,155	0.3	2	1,138,963	0.3
		Bering Sea Snow	N	0	0	0.0	1	177,495	0.0
			S	1	614,388	0.1	1	289,396	0.1
		Bering Sea Tanner	U	1	494,659	0.3	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	494,659	0.3	1	135,228	0.1
		Bering Tanner West	U	1	494,659	0.3	1	135,228	0.1
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	2	119,394	1.3	2	119,394	1.3
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Kodiak	Bristol Bay Red	N	1	536,268	5.7	6	768,603	8.1
			S	20	30,912,004	8.5	26	36,537,664	10.1
		Bering Sea Snow	N	19	44,041,099	10.6	26	52,436,776	12.6
			S	14	33,748,914	7.1	20	37,179,597	7.9
		Bering Sea Tanner	U	20	18,771,645	10.3	0	0	--
		Eastern Aleutian Golden	S	1	200,725	2.2	1	200,725	2.2
		Western Aleutian Golden	U	1	212,781	2.0	1	212,781	2.0
			W	1	406,407	3.9	1	406,407	3.9
		Bering Tanner East	U	21	20,025,021	10.9	23	20,381,815	11.2
		Bering Tanner West	U	21	20,025,021	10.9	25	20,703,799	11.4

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
		Pribilof Is. Blue/Red	N	7	1,216,535	6.0	9	1,284,808	6.6
			S	5	523,982	5.6	11	776,070	8.2
		St. Matthew Blue	N	12	3,252,826	14.4	16	3,609,719	15.9
			S	4	417,563	6.7	9	468,615	7.5
		Western Aleutian Red	S	3	1,077,201	3.0	3	1,077,201	3.0
	Petersburg	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	2	3,068,068	0.8	2	3,068,068	0.8
		Bering Sea Snow	N	3	4,505,115	1.1	3	4,505,115	1.1
			S	3	5,815,152	1.2	3	5,815,152	1.2
		Bering Sea Tanner	U	3	1,221,640	0.7	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	3	1,221,640	0.7	3	1,221,640	0.7
		Bering Tanner West	U	3	1,221,640	0.7	3	1,221,640	0.7
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	1	272,359	1.2	1	272,359	1.2
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Sand Point	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Bering Sea Snow	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	0	0	0.0	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	312,244	0.2	0	0	0.0
		Bering Tanner West	U	1	312,244	0.2	0	0	0.0
		Pribilof Is. Blue/Red	N	1	208,284	1.0	1	208,284	1.1
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
	Seldovia	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	1,138,742	0.3	1	1,138,742	0.3
		Bering Sea Snow	N	1	964,144	0.2	1	964,144	0.2
			S	1	3,139,028	0.7	1	3,139,028	0.7
		Bering Sea Tanner	U	1	894,475	0.5	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	894,475	0.5	1	894,475	0.5
		Bering Tanner West	U	1	894,475	0.5	1	894,475	0.5
		Pribilof Is. Blue/Red	N	1	518,547	2.6	1	518,547	2.7
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Dutch Harbor/Unalaska	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	2	1,904,867	0.5	2	1,904,867	0.5
		Bering Sea Snow	N	1	1,389,562	0.3	1	1,389,562	0.3
			S	1	914,644	0.2	1	914,644	0.2
		Bering Sea Tanner	U	2	308,106	0.2	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	2	308,106	0.2	2	308,106	0.2
		Bering Tanner West	U	2	308,106	0.2	2	308,106	0.2
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	2	474,530	5.0	2	474,530	5.0
		St. Matthew Blue	N	1	21,065	0.1	1	21,065	0.1
			S	1	17,026	0.3	1	17,026	0.3
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Yakutat	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	921,242	0.3	1	921,242	0.3
		Bering Sea Snow	N	1	1,483,952	0.4	1	1,483,952	0.4
			S	1	1,061,753	0.2	1	1,061,753	0.2
		Bering Sea Tanner	U	1	377,241	0.2	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	377,241	0.2	1	377,241	0.2
		Bering Tanner West	U	1	377,241	0.2	1	377,241	0.2
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	1	244,120	1.1	1	244,120	1.1
			S	1	9,921	0.2	1	9,921	0.2
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Alaska Total	**Bristol Bay Red**	**N**	**2**	**1,301,730**	**13.8**	**10**	**1,731,440**	**18.3**
			S	**39**	**58,759,951**	**16.2**	**62**	**82,463,431**	**22.8**
		Bering Sea Snow	**N**	**37**	**84,169,358**	**20.2**	**55**	**105,414,221**	**25.4**
			S	**33**	**61,539,949**	**13.0**	**52**	**99,420,573**	**21.1**
		Bering Sea Tanner	**U**	**40**	**29,207,797**	**16.1**	**0**	**0**	**--**
		Eastern Aleutian Golden	**S**	**1**	**200,725**	**2.2**	**7**	**3,161,962**	**34.3**
		Western Aleutian Golden	**U**	**1**	**212,781**	**2.0**	**6**	**2,697,679**	**25.9**
			W	**1**	**406,407**	**3.9**	**5**	**2,585,975**	**24.8**
		Bering Tanner East	**U**	**42**	**31,411,505**	**17.1**	**57**	**40,501,779**	**22.3**
		Bering Tanner West	**U**	**41**	**31,411,505**	**17.1**	**58**	**40,856,054**	**22.5**
		Pribilof Is. Blue/Red	**N**	**18**	**6,491,303**	**32.0**	**23**	**6,018,115**	**30.8**
			S	**15**	**1,459,223**	**15.5**	**27**	**2,510,991**	**26.6**
		St. Matthew Blue	**N**	**18**	**4,494,867**	**19.9**	**34**	**5,596,052**	**24.7**
			S	**8**	**807,515**	**12.9**	**20**	**1,634,563**	**26.2**
		Western Aleutian Red	**S**	**6**	**1,983,595**	**5.6**	**11**	**3,001,179**	**8.5**
Washington	**Washington Total**	**Bristol Bay Red**	**N**	**19**	**6,683,270**	**70.8**	**29**	**6,537,267**	**69.2**
			S	**165**	**251,116,943**	**69.3**	**182**	**234,682,066**	**64.8**
		Bering Sea Snow	**N**	**130**	**259,891,511**	**62.5**	**158**	**255,837,186**	**61.6**
			S	**148**	**341,611,087**	**72.3**	**165**	**308,198,546**	**65.6**
		Bering Sea Tanner	**U**	**168**	**125,736,784**	**69.3**	**0**	**0**	**--**
		Eastern Aleutian Golden	**S**	**13**	**7,694,171**	**83.4**	**8**	**4,054,326**	**43.9**
		Western Aleutian Golden	**U**	**10**	**4,593,571**	**44.1**	**7**	**2,108,673**	**20.2**
			W	**6**	**3,491,863**	**33.4**	**4**	**1,312,295**	**12.6**
		Bering Tanner East	**U**	**176**	**128,522,282**	**70.0**	**188**	**117,643,047**	**64.8**
		Bering Tanner West	**U**	**163**	**128,522,282**	**70.0**	**174**	**117,321,063**	**64.6**
		Pribilof Is. Blue/Red	**N**	**50**	**9,843,073**	**48.6**	**52**	**9,416,581**	**48.1**
			S	**44**	**6,105,894**	**64.7**	**45**	**5,310,864**	**56.3**

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
		St. Matthew Blue	**N**	**81**	**14,659,734**	**65.0**	**87**	**14,122,819**	**62.3**
			S	**56**	**5,271,980**	**84.1**	**65**	**4,488,414**	**71.8**
		Western Aleutian Red	**S**	**20**	**20,824,471**	**58.7**	**20**	**19,806,887**	**55.8**
Oregon	**Oregon Total**	**Bristol Bay Red**	**N**	**9**	**880,690**	**9.3**	**3**	**557,136**	**5.9**
			S	**38**	**43,214,469**	**11.9**	**33**	**32,631,053**	**9.0**
		Bering Sea Snow	**N**	**39**	**62,139,357**	**14.9**	**29**	**41,884,988**	**10.1**
			S	**33**	**55,072,368**	**11.7**	**27**	**41,669,870**	**8.9**
		Bering Sea Tanner	**U**	**38**	**23,142,651**	**12.7**	**0**	**0**	**--**
		Eastern Aleutian Golden	**S**	**2**	**1,336,124**	**14.5**	**5**	**2,014,732**	**21.8**
		Western Aleutian Golden	**U**	**2**	**5,616,213**	**53.9**	**2**	**5,616,213**	**53.9**
			W	**2**	**6,543,992**	**62.7**	**2**	**6,543,992**	**62.7**
		Bering Tanner East	**U**	**37**	**20,057,204**	**10.9**	**31**	**17,159,913**	**9.5**
		Bering Tanner West	**U**	**35**	**20,057,204**	**10.9**	**29**	**17,159,913**	**9.5**
		Pribilof Is. Blue/Red	**N**	**15**	**3,596,942**	**17.8**	**14**	**3,604,079**	**18.4**
			S	**13**	**1,337,579**	**14.2**	**10**	**1,031,724**	**10.9**
		St. Matthew Blue	**N**	**20**	**3,104,472**	**13.8**	**15**	**2,144,652**	**9.5**
			S	**16**	**158,674**	**2.5**	**10**	**83,343**	**1.3**
		Western Aleutian Red	**S**	**3**	**12,679,971**	**35.7**	**3**	**12,679,971**	**35.7**
Other U.S.	**Other U.S. Total**	**Bristol Bay Red**	**N**	**1**	**578,220**	**6.1**	**2**	**620,946**	**6.6**
			S	**9**	**9,519,762**	**2.6**	**14**	**12,630,516**	**3.5**
		Bering Sea Snow	**N**	**6**	**9,680,397**	**2.3**	**12**	**12,472,090**	**3.0**
			S	**7**	**14,381,997**	**3.0**	**12**	**20,789,217**	**4.4**
		Bering Sea Tanner	**U**	**9**	**3,467,227**	**1.9**	**0**	**0**	**--**
		Eastern Aleutian Golden	**S**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Western Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
			W	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner East	**U**	**10**	**3,518,567**	**1.9**	**14**	**6,167,946**	**3.4**
		Bering Tanner West	**U**	**8**	**3,518,567**	**1.9**	**12**	**6,167,946**	**3.4**
		Pribilof Is. Blue/Red	**N**	**2**	**330,216**	**1.6**	**3**	**521,383**	**2.7**
			S	**4**	**534,595**	**5.7**	**5**	**583,712**	**6.2**
		St. Matthew Blue	**N**	**4**	**297,872**	**1.3**	**8**	**799,031**	**3.5**
			S	**3**	**28,245**	**0.5**	**6**	**42,577**	**0.7**
		Western Aleutian Red	**S**	**0**	**0**	**0.0**	**0**	**0**	**0.0**

Source: National Marine Fisheries Service Alaska Regional Office 2008.

Table A1-9. CVC Shares – Initial Allocation and 2008-2009 Quota Shareholders

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
Alaska	Anchorage	Bristol Bay Red	N	1	32,600	10.9	0	0	0.0
			S	9	495,239	4.4	8	400,515	3.6
		Bering Sea Snow	N	7	661,665	4.9	8	733,801	5.4
			S	6	354,039	2.4	6	219,391	1.5
		Bering Sea Tanner	U	7	156,589	2.8	0	0	--
		Eastern Aleutian Golden	S	1	6,962	2.3	1	6,962	2.3
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	6	99,903	1.8	4	48,380	0.9
		Bering Tanner West	U	6	99,903	1.8	4	48,380	0.9
		Pribilof Is. Blue/Red	N	2	50,841	8.0	1	23,725	3.8
			S	1	2,252	0.8	1	2,252	0.8
		St. Matthew Blue	N	5	51,850	7.1	3	29,011	4.0
			S	1	2,828	1.6	1	2,828	1.6
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Cordova	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	1	58,658	0.5
		Bering Sea Snow	N	0	0	0.0	1	134,373	1.0
			S	0	0	0.0	1	92,177	0.6
		Bering Sea Tanner	U	0	0	0.0	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	0	0	0.0	1	42,669	0.8
		Bering Tanner West	U	0	0	0.0	1	42,669	0.8
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	0	0	0.0	1	11,551	1.6
			S	0	0	0.0	1	325	0.2
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Homer	Bristol Bay Red	N	1	30,454	10.2	1	30,454	10.2
			S	5	338,183	3.0	10	564,556	5.0
		Bering Sea Snow	N	6	944,549	7.0	7	993,266	7.3
			S	5	210,493	1.4	7	341,016	2.3

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
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		Bering Sea Tanner	U	4	143,044	2.6	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	6	207,378	3.8	6	207,378	3.8
		Bering Tanner West	U	5	207,378	3.8	5	207,378	3.8
		Pribilof Is. Blue/Red	N	3	70,084	11.1	3	70,084	11.1
			S	3	5,332	2.0	3	5,332	2.0
		St. Matthew Blue	N	1	17,002	2.3	2	20,833	2.9
			S	0	0	0.0	1	3,867	2.2
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Kenai	Bristol Bay Red	N	1	18,809	6.3	1	18,809	6.3
			S	1	18,594	0.2	1	18,594	0.2
		Bering Sea Snow	N	1	136,608	1.0	1	136,608	1.0
			S	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	1	28,957	0.5	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	0	0	0.0	0	0	0.0
		Bering Tanner West	U	0	0	0.0	0	0	0.0
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	1	18,207	6.8	1	18,207	6.8
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	King Cove	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	4	182,340	1.6	3	123,682	1.1
		Bering Sea Snow	N	3	215,341	1.6	2	80,968	0.6
			S	3	230,772	1.5	2	138,595	0.9
		Bering Sea Tanner	U	4	142,853	2.6	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	3	100,184	1.8	3	100,184	1.8
		Bering Tanner West	U	3	100,184	1.8	3	100,184	1.8

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		Pribilof Is. Blue/Red	N	2	23,886	3.8	2	23,886	3.8
			S	2	4,618	1.7	2	4,618	1.7
		St. Matthew Blue	N	2	18,008	2.5	1	6,547	0.9
			S	1	325	0.2	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Kodiak	Bristol Bay Red	N	3	52,366	17.5	3	60,434	20.2
			S	20	970,798	8.6	23	1,188,242	10.5
		Bering Sea Snow	N	17	2,134,613	15.8	14	1,908,746	14.1
			S	11	836,236	5.6	11	656,377	4.4
		Bering Sea Tanner	U	20	663,021	12.0	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	20	640,663	11.6	21	741,754	13.5
		Bering Tanner West	U	20	640,663	11.6	20	741,754	13.5
		Pribilof Is. Blue/Red	N	4	52,796	8.3	4	52,796	8.3
			S	3	15,430	5.8	3	15,430	5.8
		St. Matthew Blue	N	9	111,995	15.4	11	123,323	16.9
			S	6	14,334	8.3	7	11,936	6.8
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Petersburg	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	51,340	0.5	1	51,340	0.5
		Bering Sea Snow	N	1	153,059	1.1	1	153,059	1.1
			S	1	96,183	0.6	1	96,183	0.6
		Bering Sea Tanner	U	1	18,973	0.3	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	18,973	0.3	1	18,973	0.3
		Bering Tanner West	U	1	18,973	0.3	1	18,973	0.3
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0

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				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
	Sand Point	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	36,820	0.3	1	36,820	0.3
		Bering Sea Snow	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	0	0	0.0	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	0	0	0.0	0	0	0.0
		Bering Tanner West	U	0	0	0.0	0	0	0.0
		Pribilof Is. Blue/Red	N	1	8,465	1.3	1	8,465	1.3
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Sitka	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Bering Sea Snow	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	0	0	0.0	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	42,669	0.8	0	0	0.0
		Bering Tanner West	U	1	42,669	0.8	0	0	0.0
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Soldotna	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	45,874	0.4	1	45,874	0.4
		Bering Sea Snow	N	1	43,126	0.3	1	43,126	0.3
			S	1	140,410	0.9	1	140,410	0.9
		Bering Sea Tanner	U	1	33,887	0.6	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0

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				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	33,887	0.6	1	33,887	0.6
		Bering Tanner West	U	1	33,887	0.6	1	33,887	0.6
		Pribilof Is. Blue/Red	N	1	23,500	3.7	1	23,500	3.7
			S	0	0	0.0	0	0	0.0
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Dutch Harbor/Unalaska	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	57,493	0.5	2	119,890	1.1
		Bering Sea Snow	N	1	62,932	0.5	2	143,825	1.1
			S	1	41,423	0.3	2	65,187	0.4
		Bering Sea Tanner	U	1	11,572	0.2	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	2	27,644	0.5	2	27,644	0.5
		Bering Tanner West	U	2	27,644	0.5	2	27,644	0.5
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	0	11,654	4.4	1	11,654	4.4
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Valdez	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	27,581	0.2	0	0	0.0
		Bering Sea Snow	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	1	28,533	0.5	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	28,533	0.5	0	0	0.0
		Bering Tanner West	U	1	28,533	0.5	0	0	0.0
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0

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				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
		St. Matthew Blue	N	1	8,951	1.2	1	8,951	1.2
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Wasilla	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	54,984	0.5	1	54,984	0.5
		Bering Sea Snow	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	1	33,978	0.6	0	0	--
		Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
			W	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	33,978	0.6	1	33,978	0.6
		Bering Tanner West	U	1	33,978	0.6	1	33,978	0.6
		Pribilof Is. Blue/Red	N	1	8,488	1.3	1	8,488	1.3
			S	1	7,772	2.9	1	7,772	2.9
		St. Matthew Blue	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Alaska Total	**Bristol Bay Red**	**N**	**6**	**134,229**	**45.0**	**5**	**109,697**	**36.8**
			S	**45**	**2,279,246**	**20.2**	**52**	**2,663,155**	**23.6**
		Bering Sea Snow	**N**	**37**	**4,351,893**	**32.1**	**37**	**4,327,772**	**32.0**
			S	**28**	**1,909,556**	**12.8**	**31**	**1,749,336**	**11.7**
		Bering Sea Tanner	**U**	**41**	**1,261,407**	**22.9**	**0**	**0**	**--**
		Eastern Aleutian Golden	**S**	**1**	**6,962**	**2.3**	**1**	**6,962**	**2.3**
		Western Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
			W	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner East	**U**	**42**	**1,233,812**	**22.4**	**40**	**1,254,847**	**22.8**
		Bering Tanner West	**U**	**41**	**1,233,812**	**22.4**	**38**	**1,254,847**	**22.8**
		Pribilof Is. Blue/Red	**N**	**14**	**238,060**	**37.6**	**13**	**210,944**	**33.3**
			S	**11**	**65,265**	**24.4**	**12**	**65,265**	**24.4**
		St. Matthew Blue	**N**	**18**	**207,806**	**28.6**	**19**	**200,216**	**27.5**
			S	**8**	**17,487**	**10.2**	**10**	**18,956**	**10.8**
		Western Aleutian Red	**S**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
Washington	**Washington Total**	**Bristol Bay Red**	**N**	**5**	**130,750**	**43.8**	**6**	**155,282**	**52.0**
			S	**106**	**7,181,960**	**63.7**	**105**	**6,880,865**	**61.0**

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		Bering Sea Snow	**N**	**83**	**7,451,855**	**55.0**	**82**	**6,859,273**	**50.7**
			S	**89**	**10,496,574**	**70.5**	**89**	**10,490,398**	**70.4**
		Bering Sea Tanner	**U**	**98**	**3,284,299**	**59.6**	**0**	**0**	**--**
		Eastern Aleutian Golden	**S**	**9**	**204,859**	**68.3**	**8**	**176,443**	**58.8**
		Western Aleutian Golden	**U**	**3**	**84,585**	**23.8**	**3**	**84,585**	**23.8**
			W	**3**	**81,288**	**24.3**	**3**	**81,288**	**24.3**
		Bering Tanner East	**U**	**101**	**3,408,883**	**61.9**	**99**	**3,214,956**	**58.3**
		Bering Tanner West	**U**	**92**	**3,408,883**	**61.9**	**90**	**3,214,956**	**58.3**
		Pribilof Is. Blue/Red	**N**	**12**	**266,684**	**42.2**	**13**	**293,800**	**46.4**
			S	**12**	**150,361**	**56.2**	**12**	**150,361**	**56.2**
		St. Matthew Blue	**N**	**39**	**421,288**	**57.9**	**37**	**409,439**	**56.3**
			S	**30**	**145,692**	**84.6**	**27**	**144,925**	**82.3**
		Western Aleutian Red	**S**	**3**	**1,200,156**	**77.2**	**3**	**1,200,156**	**77.2**
Oregon	**Oregon Total**	**Bristol Bay Red**	**N**	**1**	**13,489**	**4.5**	**1**	**13,489**	**4.5**
			S	**14**	**893,729**	**7.9**	**19**	**1,034,957**	**9.2**
		Bering Sea Snow	**N**	**13**	**988,385**	**7.3**	**19**	**1,271,348**	**9.4**
			S	**12**	**1,097,316**	**7.4**	**17**	**1,694,991**	**11.4**
		Bering Sea Tanner	**U**	**17**	**506,887**	**9.2**	**0**	**0**	**--**
		Eastern Aleutian Golden	**S**	**2**	**76,104**	**25.4**	**3**	**97,745**	**32.6**
		Western Aleutian Golden	**U**	**3**	**185,562**	**52.3**	**4**	**210,794**	**59.4**
			W	**3**	**205,069**	**61.2**	**4**	**253,838**	**75.7**
		Bering Tanner East	**U**	**18**	**605,096**	**11.0**	**23**	**691,447**	**12.5**
		Bering Tanner West	**U**	**16**	**605,096**	**11.0**	**22**	**691,447**	**12.5**
		Pribilof Is. Blue/Red	**N**	**4**	**58,396**	**9.2**	**4**	**58,396**	**9.2**
			S	**4**	**20,345**	**7.6**	**4**	**20,345**	**7.6**
		St. Matthew Blue	**N**	**4**	**50,807**	**7.0**	**6**	**70,336**	**9.7**
			S	**3**	**2,370**	**1.4**	**5**	**5,535**	**3.1**
		Western Aleutian Red	**S**	**1**	**354,878**	**22.8**	**1**	**354,878**	**22.8**
Other U.S.	**Other U.S. Total**	**Bristol Bay Red**	**N**	**1**	**19,987**	**6.7**	**1**	**19,987**	**6.7**
			S	**14**	**925,214**	**8.2**	**12**	**701,172**	**6.2**
		Bering Sea Snow	**N**	**10**	**746,050**	**5.5**	**12**	**1,079,822**	**8.0**
			S	**13**	**1,391,964**	**9.3**	**12**	**960,721**	**6.4**
		Bering Sea Tanner	**U**	**15**	**458,432**	**8.3**	**0**	**0**	**--**
		Eastern Aleutian Golden	**S**	**1**	**12,064**	**4.0**	**2**	**18,839**	**6.3**
		Western Aleutian Golden	**U**	**2**	**84,678**	**23.9**	**1**	**59,446**	**16.8**
			W	**1**	**48,769**	**14.6**	**0**	**0**	**0.0**

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		Bering Tanner East	**U**	**11**	**263,234**	**4.8**	**14**	**349,775**	**6.3**
		Bering Tanner West	**U**	**10**	**263,234**	**4.8**	**13**	**349,775**	**6.3**
		Pribilof Is. Blue/Red	**N**	**4**	**69,435**	**11.0**	**4**	**69,435**	**11.0**
			S	**4**	**31,447**	**11.8**	**4**	**31,447**	**11.8**
		St. Matthew Blue	**N**	**4**	**47,853**	**6.6**	**4**	**47,853**	**6.6**
			S	**3**	**6,704**	**3.9**	**3**	**6,704**	**3.8**
		Western Aleutian Red	**S**	**0**	**0**	**0.0**	**0**	**0**	**0.0**

Source: National Marine Fisheries Service Alaska Regional Office 2008.

Table A1-10. CPO Shares – Initial Allocation and 2008-2009 Quota Shareholders

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
Alaska	Anchorage	Bristol Bay Red	U	1	777,429	4.4	2	1,250,587	7.1
		Bering Sea Snow	U	1	3,494,652	3.9	3	8,061,549	9.1
		Bering Sea Tanner	U	1	460,039	3.5	0	0	--
		Eastern Aleutian Golden	U	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	460,039	3.5	2	915,592	7.0
		Bering Tanner West	U	1	460,039	3.5	2	915,592	7.0
		Pribilof Is. Blue/Red	U	0	0	0.0	0	0	0.0
		St. Matthew Blue	U	0	0	0.0	0	0	0.0
		Western Aleutian Red	U	0	0	0.0	0	0	0.0
	Alaska Total	**Bristol Bay Red**	**U**	**1**	**777,429**	**4.4**	**2**	**1,250,587**	**7.1**
		Bering Sea Snow	**U**	**1**	**3,494,652**	**3.9**	**3**	**8,061,549**	**9.1**
		Bering Sea Tanner	**U**	**1**	**460,039**	**3.5**	**0**	**0**	**--**
		Eastern Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Western Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner East	**U**	**1**	**460,039**	**3.5**	**2**	**915,592**	**7.0**
		Bering Tanner West	**U**	**1**	**460,039**	**3.5**	**2**	**915,592**	**7.0**
		Pribilof Is. Blue/Red	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		St. Matthew Blue	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Western Aleutian Red	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
Washington	**Washington Total**	**Bristol Bay Red**	**U**	**13**	**16,921,219**	**95.6**	**13**	**16,448,061**	**92.9**
		Bering Sea Snow	**U**	**17**	**85,185,819**	**96.1**	**17**	**80,618,922**	**90.9**
		Bering Sea Tanner	**U**	**14**	**12,617,209**	**96.5**	**0**	**0**	**--**
		Eastern Aleutian Golden	**U**	**2**	**469,136**	**100.0**	**2**	**469,136**	**100.0**
		Western Aleutian Golden	**U**	**2**	**17,935,173**	**100.0**	**3**	**17,935,173**	**100.0**
		Bering Tanner East	**U**	**14**	**12,617,209**	**96.5**	**14**	**12,161,656**	**93.0**
		Bering Tanner West	**U**	**12**	**12,617,209**	**96.5**	**12**	**12,161,656**	**93.0**
		Pribilof Is. Blue/Red	**U**	**1**	**151,568**	**100.0**	**1**	**151,568**	**100.0**
		St. Matthew Blue	**U**	**5**	**579,116**	**100.0**	**5**	**579,116**	**100.0**
		Western Aleutian Red	**U**	**2**	**22,713,377**	**100.0**	**2**	**22,713,377**	**100.0**
Oregon	**Oregon Total**	**Bristol Bay Red**	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Sea Snow	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Sea Tanner	**U**	**0**	**0**	**0.0**	**0**	**0**	**--**
		Eastern Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
		Western Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner East	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner West	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Pribilof Is. Blue/Red	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		St. Matthew Blue	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Western Aleutian Red	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
Other U.S.	**Other U.S. Total**	**Bristol Bay Red**	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Sea Snow	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Sea Tanner	**U**	**0**	**0**	**0.0**	**0**	**0**	**--**
		Eastern Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Western Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner East	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner West	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Pribilof Is. Blue/Red	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		St. Matthew Blue	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Western Aleutian Red	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**

Source: National Marine Fisheries Service Alaska Regional Office 2008.

Table A1-11. CPC Shares – Initial Allocation and 2008-2009 Quota Shareholders

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
Alaska	Anchorage	Bristol Bay Red	U	0	0	0.0	0	0	0.0
		Bering Sea Snow	U	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	0	0	0.0	0	0	--
		Eastern Aleutian Golden	U	0	0	--	0	0	--
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
		Bering Tanner East	U	1	25,739	5.2	1	25,739	5.2
		Bering Tanner West	U	1	25,739	5.2	1	25,739	5.2
		Pribilof Is. Blue/Red	U	0	0	--	0	0	--
		St. Matthew Blue	U	0	0	--	0	0	--
		Western Aleutian Red	U	0	0	0.0	0	0	0.0
	Kodiak	Bristol Bay Red	U	2	51,478	10.9	2	1,184	0.3
		Bering Sea Snow	U	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	0	0	0.0	0	0	--
		Eastern Aleutian Golden	U	0	0	--	0	0	--
		Western Aleutian Golden	U	0	0	0.0	0	0	0.0
		Bering Tanner East	U	0	0	0.0	0	0	0.0
		Bering Tanner West	U	0	0	0.0	0	0	0.0
		Pribilof Is. Blue/Red	U	0	0	--	0	0	--
		St. Matthew Blue	U	0	0	--	0	0	--
		Western Aleutian Red	U	0	0	0.0	0	0	0.0
	Alaska Total	**Bristol Bay Red**	**U**	**2**	**51,478**	**10.9**	**2**	**1,184**	**0.3**
		Bering Sea Snow	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Sea Tanner	**U**	**0**	**0**	**0.0**	**0**	**0**	**--**
		Eastern Aleutian Golden	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		Western Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner East	**U**	**1**	**25,739**	**5.2**	**1**	**25,739**	**5.2**
		Bering Tanner West	**U**	**1**	**25,739**	**5.2**	**1**	**25,739**	**5.2**
		Pribilof Is. Blue/Red	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		St. Matthew Blue	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		Western Aleutian Red	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
Washington	**Washington Total**	**Bristol Bay Red**	**U**	**4**	**210,926**	**44.7**	**3**	**194,785**	**46.2**
		Bering Sea Snow	**U**	**6**	**1,230,257**	**69.3**	**7**	**1,469,349**	**82.8**
		Bering Sea Tanner	**U**	**12**	**408,191**	**82.8**	**0**	**0**	**--**
		Eastern Aleutian Golden	**U**	**0**	**0**	**--**	**0**	**0**	**--**

State	Community	Species	Region	Initial Allocation			2008-2009 Quota Shareholders		
				Unique Holders	Quota Units	% of Total Quota Units For Species/Region	Unique Holders	Quota Units	% of Total Quota Units For Species/Region
		Western Aleutian Golden	**U**	**1**	**500,850**	**98.2**	**1**	**500,850**	**98.2**
		Bering Tanner East	**U**	**11**	**376,882**	**76.4**	**11**	**376,882**	**76.4**
		Bering Tanner West	**U**	**11**	**376,882**	**76.4**	**11**	**376,882**	**76.4**
		Pribilof Is. Blue/Red	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		St. Matthew Blue	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		Western Aleutian Red	**U**	**1**	**245,011**	**100.0**	**1**	**245,011**	**100.0**
Oregon	**Oregon Total**	**Bristol Bay Red**	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Sea Snow	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Sea Tanner	**U**	**0**	**0**	**0.0**	**0**	**0**	**--**
		Eastern Aleutian Golden	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		Western Aleutian Golden	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner East	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Bering Tanner West	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
		Pribilof Is. Blue/Red	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		St. Matthew Blue	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		Western Aleutian Red	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**
Other U.S.	**Other U.S. Total**	**Bristol Bay Red**	**U**	**2**	**209,621**	**44.4**	**3**	**225,762**	**53.5**
		Bering Sea Snow	**U**	**2**	**543,814**	**30.7**	**2**	**304,722**	**17.2**
		Bering Sea Tanner	**U**	**3**	**84,982**	**17.2**	**0**	**0**	**--**
		Eastern Aleutian Golden	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		Western Aleutian Golden	**U**	**1**	**9,257**	**1.8**	**1**	**9,257**	**1.8**
		Bering Tanner East	**U**	**3**	**90,552**	**18.4**	**3**	**90,552**	**18.4**
		Bering Tanner West	**U**	**3**	**90,552**	**18.4**	**3**	**90,552**	**18.4**
		Pribilof Is. Blue/Red	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		St. Matthew Blue	**U**	**0**	**0**	**--**	**0**	**0**	**--**
		Western Aleutian Red	**U**	**0**	**0**	**0.0**	**0**	**0**	**0.0**

Source: National Marine Fisheries Service Alaska Regional Office 2008.

ATTACHMENT 2

SOCIAL IMPACT ASSESSMENT
COMMUNITY PROFILE UPDATE METHODOLOGY

ATTACHMENT 2

SOCIAL IMPACT ASSESSMENT
COMMUNITY PROFILE UPDATE METHODOLOGY

As noted in Chapter 1, for the purposes of this social impact assessment, a two-pronged approach to analyzing the community or regional components of changes associated with the implementation of Bering Sea and Aleutian Islands (BSAI) crab rationalization was utilized. First, a BSAI crab rationalization analysis data set utilizing ADFG fish ticket and CFEC gross revenues data was developed by NPFMC staff and provided to the SIA study team to identify patterns of participation in the various components of the fishery. The study team constructed sector based tables based on existing quantitative fishery information from this data set. These tables, presenting data on an annual basis from 1998 through 2007, are quite large and are included in Attachment 1. Summary tables are presented in Section 1.2 along with accompanying narrative. This analysis focuses on fishery sectors (harvesters, catcher processors, and processors) and contrasts average annual participation indictors for pre- and post-rationalization implementation years over the span of 1998 through 2006–2007. This is a central focus of the analysis, but there are substantial limitations on the data that can be utilized for these purposes, based on confidentiality restrictions.

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 order of magnitude of social and community level impacts associated with the relevant crab fisheries. In short, this second approach 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). 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 qualitatively explores the social and community impacts that have resulted from the rationalization-associated changes to the locally present sectors in combination with other community-specific attributes and socioeconomic characteristics.

Chosen for this community-level analysis were those Alaskan communities characterized in the pre-implementation BSAI crab rationalization social impact assessment. These are Unalaska/ Dutch Harbor, Akutan, King Cove, Kodiak, Sand Point, Adak, St. Paul, and St. George. A community-by-community summary of the social impacts of BSAI crab rationalization for each of these communities is presented in Section 1.3. This summary is derived from detailed community profiling efforts, the results of which are in part included in this analysis and in part included in another document incorporated by reference.

Pre-rationalization crab fishery-oriented profiles for each of these communities were developed for the *BSAI Crab Fisheries Final Environmental Impact Statement Social Impact Assessment* (NOAA 2004, Appendix 3[1]). Updated, detailed profiles with a focus on crab dependence and BSAI crab rationalization impacts are provided in this document for four of these communities. These are Unalaska/Dutch Harbor (Section 2.1), Akutan (Section 2,2), King Cove (Section 2.3), and Kodiak (Section 2.4). These profiles were updated through fieldwork and they explicitly

[1] Available at http://alaskafisheries.noaa.gov/sustainablefisheries/crab/eis/#final.

build upon the profiles of these communities developed for (1) the pre-rationalization crab social impact analysis referenced above and (2) those contained in *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak* (EDAW 2005). The latter of these profile efforts, also produced prior to the implementation of BSAI crab rationalization, was jointly funded by the North Pacific Fishery Management Council (NPFMC) and the North Pacific Research Board (NPRB). In addition to the information that has been updated in this document, these (EDAW 2005) profiles contain quantitative characterization of each of the community's local commercial fishing harvest sector, including detailed information on an annual basis, from 1995 through 2002, of local vessel characteristics, distribution of permit holders, catch and earnings estimates, and landings inside and outside of the community, along with an analysis of the spatial distribution of fishing effort of the local fleet. As updating this information is effort intensive and not central to the current BSAI crab rationalization 3-year review-oriented community analysis, it has not been updated in the community profiles included in this document, but this information is readily available[2] for review in the original document. The earlier document also contained a number of photographs of the community context and relevant structures; the current updates contain only a few photos of aspects of the community that have changed since the previous profiles and are discussed in the narrative.

Updated, post-BSAI crab rationalization profiles for the other four communities central to the current analysis (Sand Point, Adak, St. Paul, and St. George) were completed in June 2008 under the title *Comprehensive Baseline Commercial Fishing Community Engagement and Dependency Profiles: Adak, St. George, St. Paul, and Sand Point, Alaska* (EDAW 2008). These profiles, funded by the NPFMC (Contract NEPA-1-06) and the NPRB (Project 640), explicitly built upon the community profiles contained in the *BSAI Crab Fisheries Final Environmental Impact Statement Social Impact Assessment* (NOAA 2004, Appendix 3), and contain, as part of the overall description of each commercial fishery-related sector in the community and where relevant, information on community-specific effects of crab rationalization. As these comprehensive profiles are readily available[3] for review, and have recently been distributed to the NPFMC at its constituent bodies, they are incorporated by reference rather than reproduced in this document.

Steps in the Community Profile Process

The overall research to update the four community profiles included in this document generally followed the steps outlined below. In practice, a number of different tasks took place simultaneously.

Preliminary Data Analysis. NPFMC staff provided contractor staff with sector and location-based data as they became available. Results included vessel count, ownership, and homeport data, processor count, location, and processing data, and analogous catcher processor data, along with quota share distribution data, among others. There were a number of iterations of this process in response to contractor queries. 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

[2] Available at http://www.fakr.noaa.gov/npfmc/current_issues/crab/crabcoop.htm and then selecting Community Profiles 08/08 Volume 1: Unalaska, Akutan, King Cove, Kodiak.

[3] Available at http://www.fakr.noaa.gov/npfmc/current_issues/crab/crabcoop.htm and then selecting Community Profiles 08/08 Volume 2: Sand Point, Adak, St. Paul, St. George.

Protection Measures Supplemental EIS (SEIS) (the SSL SEIS for short), the American Fisheries Act (AFA) Report to Congress, the Groundfish SEIS, and BSAI Crab Fisheries EIS SIA, as well as the more recent NPFMC/NPRB profiles, and used that work as a foundation.

Summarize Relevant Existing Information. Prior to the collection of field data, existing information relevant to the present effort was summarized. These materials, along with other relevant sources, were used to develop preliminary pre-field community profiles to identify information gaps, and to guide field interviews and research.

Conduct 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 (5 days), Akutan (1 day), King Cove (4 days), and Kodiak (4 days). Other in-person contacts were made in Anchorage, and phone contacts were made with entities or individuals for all communities profiled.

Information Goals, Objectives, and Techniques

Field 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 field communities identified in the scope of work (Unalaska/Dutch Harbor, Akutan, King Cove, and Kodiak), although supplemental phone contacts were made for all of the communities included in the larger analysis (Sand Point, Adak, St. George, and St. Paul, in addition to the four already noted). 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, with a priority given to individuals and institutions contacted in the pre-crab rationalization SIA work to allow for more direct pre- and post-implementation analysis. 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 seen in the communities as a result of implementation of BSAI crab rationalization, informed by more than fifteen years 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, but because of the retrospective nature of this work compared to the typical predictive nature of previous SIA efforts in the region (with the noted exception of the AFA

Report to Congress), this research effort did not include an update of the earlier produced literature review of similar programs.

Direct and support sector 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 vessel and crew related entities (although crew issues themselves are being addressed through a separate piece of research for the 3-year crab rationalization review process)—as well as with individuals from support service sector businesses and individuals knowledgeable about other community economic sectors. As in previous projects, our conversations were guided by a research protocol so that we could collect comparable information from those people with whom we spoke, but individual contacts were directed primarily toward updating existing information to allow for pre- and post-rationalization perspectives to emerge.

Compared to earlier efforts, relatively little effort was devoted to fieldwork for these profile updates, 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 noted above) 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 judgment 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.

<u>"Standard Protocol" Interviews</u>: The most common interview situation involved the researcher talking with an individual about his or her participation in the fishery or support sector, but often in a group context for larger corporate fishery entities or for groups of individual fishermen. The interview was guided by the use of a protocol that specifies certain areas of interest and topics to be covered.

<u>Key Person Interviews</u>: Most of the 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, using 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 several 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 persons to attend, to provide information as well as to keep them informed of the research 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 those communities.

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 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 that may then be followed up on during interviews. Such measures sometimes provide insight and information that are often unobtainable through other techniques, 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. Again, with the very limited fieldwork involved in this project, this approach was used only to a limited extent.

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 was largely to follow up individuals or institutional representatives that were identified in previous work as 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 entrée 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 entrée. 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 "judgment" 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 judgment can be made as to which are primarily affected" (Fed. Reg. 1997:41918). Purposive sampling allows for reasoned judgment in adjusting interview targeting strategies once the fieldwork is underway, information begins to be developed, and salient issues begin to become apparent. In practical terms, purposive sampling allowed for efficient use of very limited field time.

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 previous research. Based on this categorization and the focus on community effects, and in view of the amount of other information already available and a judgment as to the extent of change in different sectors of the fishery since the construction of the last sector profiles, the decision was made to focus on those Alaska communities with the most direct linkages to the BSAI crab fisheries—Unalaska/Dutch Harbor, Akutan, King Cove, and Kodiak for the present profiling effort, given that Sand Point, Adak, St. Paul, and St. George profiles had been completed within the last few months. 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 vessels, due to limitations of time and resources, and the dispersed nature of the sector, we worked primarily with secondary data supplemented by contacts with vessel organizations and opportunistic interviews in the field. 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. For Kodiak specifically, crew impacts as a crab rationalization issue has been well documented as part of the public input process before the NPFMC and, given that another study focused specifically on crew impacts of crab rationalization is taking place simultaneously, this was not a prime focus of the limited field effort for the community profile updates.

Effort was also made to contact a number of fishery support service entities in each community. In practical terms, we were able to cover the range of these businesses in the smaller communities where the types of entities and the total number of these entities are few. 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 is a summary of in-person field contacts and substantive telephone contacts.

Table A2-1. Summary of Community Profile Update Contacts

Unalaska	City	9
	Processors (Companies)	7
	Catcher Vessel Owners/Crew/Entities	2
	Support Service Entities	31
	Native Corporation/Tribal Entities/CDQ Groups	1
	Other	1
Akutan	City/Borough	3
	Processors (Companies)	1
	Catcher Vessel Owners/Crew/Entities	3
	Support Service Entities	2
	Native Corporation/Tribal Entities/CDQ Groups	2
	Other	0
King Cove	City	6
	Processors (Companies)	1
	Catcher Vessel Owners/Crew/Entities	11
	Support Service Entities	13
	Native Corporation/Tribal Entities/CDQ Groups	5
	Other	1
Kodiak	City/Borough	9
	Processors (Companies)	8
	Catcher Vessel Owners/Crew/Entities	4
	Support Service Entities	15
	Native Corporation/Tribal Entities/CDQ Groups	0
	Other	2

Other Methodological Considerations

There are four interrelated concerns that should be noted regarding the data utilized in this research. These topics are confidentiality, informed consent, and self-interest.

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. For virtually all of the businesses contacted, disclosure of identity was problematic, rather, it was specific business practices and/or levels of revenue that were considered confidential. Confidentiality is, however, a large issue when it comes to the ability to undertake community level analysis with fisheries statistical data, as noted elsewhere.

Informed Consent: Informed consent is a challenging 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 self-interest 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. Further, a priority was placed on re-contacting entities that had previously been interviewed during the pre-BSAI crab rationalization SIA process to help provide a perspective on potential recall or self-interest bias.

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ATTACHMENT 3

TOTAL AND PERCENTAGE OF KODIAK QUARTERLY SALES BY BUSINESS TYPE, FIRST QUARTER 2002–FIRST QUARTER 2008

Table A3-1. Total Sales Reported by Kodiak Businesses, by Year and Quarter (thousands of dollars), 2002–2008

	2002				2003				2004				2005				2006				2007				2008
Business Type	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**
Contractors	2,792	5,597	13,302	7,209	5,700	13,546	16,255	9,976	4,775	8,866	13,521	12,581	7,349	9,879	13,132	9,077	6,233	10,195	5,414	6,246	5,171	10,635	25,761	14,971	4,408
Grocery Stores	7,227	8,062	8,177	7,220	7,756	8,044	8,335	7,933	7,483	8,109	8,466	7,342	7,770	8,656	8,844	7,793	7,903	8,752	9,068	8,144	8,101	9,355	9,612	8,553	8,533
Canneries	2,286	4,789	4,354	3,648	3,125	5,421	5,705	3,029	3,356	4,535	6,585	2,579	3,225	5,676	5,862	3,263	3,092	5,437	5,921	4,204	3,021	6,765	6,322	5,169	2,424
Taxi Cabs	176	189	200	184	155	158	201	161	182	196	200	183	175	164	191	161	150	162	181	159	132	168	189	186	163
City Boat Harbor	525	371	585	312	618	329	744	296	570	119	854	159	273	148	700	563	503	290	924	642	532	317	1,087	1,327	487
Boat Charters	60	101	429	170	49	66	643	82	88	268	869	238	37	260	904	318	111	147	882	164	17	181	788	233	67
Communications	1,025	1,236	1,131	1,168	1,037	1,129	1,060	1,158	1,121	1,330	1,435	1,466	1,294	1,230	1,193	1,312	1,578	1,643	1,578	1,714	1,523	1,939	1,974	2,085	1,947
City Utilities	1,250	1,172	1,131	1,121	1,218	1,161	1,302	1,176	1,234	1,091	1,228	1,041	1,210	1,110	1,281	1,083	NA	1,132	1,350	757	1,281	1,290	1,439	705	1,431
Utilities	5,361	4,983	5,381	5,284	5,697	4,993	5,380	5,001	5,724	5,112	5,843	5,012	5,975	5,206	5,922	5,507	6,402	6,068	7,564	6,394	6,811	6,882	6,794	7,246	7,190
Beverage Distributors	213	377	481	362	296	416	492	410	360	471	453	294	352	509	546	462	647	51	572	367	30	59	86	591	423
Retail Sales	22,491	32,664	28,223	25,717	23,751	35,135	28,864	26,620	25,243	32,475	35,311	32,343	32,122	33,281	45,885	31,584	29,464	38,241	46,470	28,009	30,763	39,269	45,924	36,483	39,846
Restaurants	1,482	1,851	1,930	1,753	1,584	1,864	2,094	1,864	1,715	1,985	2,134	1,890	1,675	1,955	2,276	1,749	1,635	2,041	2,310	1,874	1,791	2,101	2,353	1,937	1,838
Bars/Liquor Stores	1,824	2,209	2,475	2,313	1,411	2,499	2,717	2,386	2,126	2,465	2,767	2,385	2,181	2,465	2,864	2,352	2,183	2,673	2,838	2,298	2,215	2,704	3,206	2,421	2,191
Rental/Leases	2,321	2,346	2,390	2,428	2,312	2,360	2,549	2,350	2,416	2,489	2,546	2,431	2,488	2,421	2,370	2,239	2,488	2,629	2,669	2,302	2,612	2,339	2,623	2,772	2,745
Hotels/Motels/B&B	478	918	1,375	756	683	1,068	1,512	831	812	1,025	1,484	858	788	1,138	1,651	966	1,017	1,336	1,821	887	799	1,314	1,876	945	789
Beauticians	166	184	184	208	173	208	201	188	185	192	188	202	183	195	199	213	196	198	217	203	213	217	206	201	177
Personal Services	123	140	159	155	167	183	200	185	225	232	220	211	200	182	189	178	198	228	225	166	163	183	168	212	218
Advertising	0	0	0	0	0	0	0	0	0	0	0	11	3	0	0	32	0	2	30	4	4	21	4	21	4
Artists/Photographers	18	53	16	89	17	57	64	49	19	53	75	88	38	82	101	89	49	95	52	124	40	76	69	123	22
Business Services	962	979	1,031	1,037	928	1,022	1,109	1,057	1,053	1,213	1,323	1,210	1,148	981	991	1,071	1,242	1,466	1,372	1,291	1,140	1,370	1,353	1,078	1,202
Vehicle Repairs	917	1,365	1,252	1,109	851	1,152	1,292	1,153	1,299	1,244	1,389	1,166	819	1,229	1,059	1,073	843	1,326	1,209	1,285	1,157	1,221	1,498	1,538	1,274
Service Stations	706	828	773	712	736	841	840	822	796	913	976	891	832	1,014	1,067	990	1,547	1,833	2,049	5,202	1,586	1,867	1,959	1,714	1,705
General Repair Services	1,333	1,617	1,836	1,863	1,743	1,767	1,722	1,461	1,411	1,850	1,798	1,599	1,560	1,724	1,607	1,689	1,728	2,352	1,955	1,802	1,439	2,168	2,282	1,999	1,876
Amusements	150	144	172	121	125	132	158	88	278	277	295	272	271	274	259	261	243	275	277	282	260	276	289	254	264
Health Services	114	104	113	100	37	126	83	84	122	103	110	106	88	126	101	68	51	49	55	46	50	55	52	41	45
Legal Services	287	236	353	267	231	284	325	243	275	287	532	495	325	427	182	294	385	241	278	300	265	224	255	401	247
Miscellaneous Services	669	1,040	1,494	1,234	707	1,686	1,662	1,298	1,232	1,831	1,726	1,470	1,475	2,087	2,022	1,495	1,709	5,070	6,296	4,068	2,206	2,570	2,967	2,405	2,670
Total	54,956	73,556	78,947	66,541	61,107	85,646	85,510	69,902	64,098	78,729	92,328	78,523	73,857	82,418	101,398	75,882	NA	93,933	103,579	78,935	73,322	95,567	121,135	95,611	84,185
Total, excl. City Utilities	53,707	72,384	77,816	65,421	59,889	84,484	84,208	68,726	62,864	77,638	91,101	77,482	72,647	81,308	100,117	74,798	71,596	92,801	102,228	78,177	72,041	94,276	119,696	94,905	82,754

Table A3-2. Percentage Change in Total Sales Reported by Kodiak Businesses Compared to Previous Year Corresponding Quarter, 2002–2008

	2003				2004				2005				2006				2007				2008
Business Type	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**	**II**	**III**	**IV**	**I**
Contractors	104%	142%	22%	38%	-16%	-35%	-17%	26%	54%	11%	-3%	-28%	-15%	3%	-59%	-31%	-17%	4%	376%	140%	-15%
Grocery Stores	7%	0%	2%	10%	-4%	1%	2%	-7%	4%	7%	4%	6%	2%	1%	3%	5%	3%	7%	6%	5%	5%
Canneries	37%	13%	31%	-17%	7%	-16%	15%	-15%	-4%	25%	-11%	27%	-4%	-4%	1%	29%	-2%	24%	7%	23%	-20%
Taxi Cabs	-12%	-16%	0%	-13%	17%	24%	0%	14%	-4%	-16%	-5%	-12%	-14%	-1%	-5%	-1%	-12%	4%	4%	17%	23%
City Boat Harbor	18%	-11%	27%	-5%	-8%	-64%	15%	-46%	-52%	24%	-18%	254%	84%	96%	32%	14%	6%	9%	18%	107%	-9%
Boat Charters	-18%	-35%	50%	-52%	80%	306%	35%	190%	-58%	-3%	4%	34%	200%	-44%	-2%	-48%	-85%	24%	-11%	42%	294%
Communications	1%	-9%	-6%	-1%	8%	18%	35%	27%	15%	-8%	-17%	-11%	22%	34%	32%	31%	-4%	18%	25%	22%	28%
City Utilities	-3%	-1%	15%	5%	1%	-6%	-6%	-11%	-2%	2%	4%	4%	NA	2%	5%	-30%	NA	14%	7%	-7%	12%
Utilities	6%	0%	0%	-5%	0%	2%	9%	0%	4%	2%	1%	10%	7%	17%	28%	16%	6%	13%	-10%	13%	6%
Beverage Distributors	39%	10%	2%	13%	22%	13%	-8%	-28%	-2%	8%	21%	57%	84%	-90%	5%	-20%	-95%	17%	-85%	61%	1331%
Retail Sales	6%	8%	2%	4%	6%	-8%	22%	21%	27%	2%	30%	-2%	-8%	15%	1%	-11%	4%	3%	-1%	30%	30%
Restaurants	7%	1%	8%	6%	8%	6%	2%	1%	-2%	-2%	7%	-7%	-2%	4%	2%	7%	10%	3%	2%	3%	3%
Bars/Liquor Stores	-23%	13%	10%	3%	51%	-1%	2%	0%	3%	0%	4%	-1%	0%	8%	-1%	-2%	1%	1%	13%	5%	-1%
Rental/Leases	0%	1%	7%	-3%	4%	5%	0%	3%	3%	-3%	-7%	-8%	0%	9%	13%	3%	5%	-11%	-2%	20%	5%
Hotels/Motels/B&B	43%	16%	10%	10%	19%	-4%	-2%	3%	-3%	11%	11%	13%	29%	17%	10%	-8%	-21%	-2%	3%	6%	-1%
Beauticians	4%	13%	9%	-10%	7%	-8%	-6%	7%	-1%	2%	6%	5%	7%	2%	9%	-5%	9%	9%	-5%	-1%	-17%
Personal Services	36%	31%	26%	19%	35%	27%	10%	14%	-11%	-22%	-14%	-16%	-1%	25%	19%	-7%	-18%	-20%	-25%	28%	34%
Advertising												191%	-100%			-89%		780%	-86%	479%	6%
Artists/Photographers	-6%	8%	300%	-45%	12%	-7%	17%	80%	100%	55%	35%	1%	29%	16%	-48%	39%	-17%	-20%	31%	-1%	-45%
Business Services	-4%	4%	8%	2%	13%	19%	19%	14%	9%	-19%	-25%	-11%	8%	49%	38%	21%	-8%	-7%	-1%	-17%	5%
Vehicle Repairs	-7%	-16%	3%	4%	53%	8%	8%	1%	-37%	-1%	-24%	-8%	3%	8%	14%	20%	37%	-8%	24%	20%	10%
Service Stations	4%	2%	9%	15%	8%	9%	16%	8%	5%	11%	9%	11%	86%	81%	92%	425%	3%	2%	-4%	-67%	7%
General Repair Services	31%	9%	-6%	-22%	-19%	5%	4%	9%	11%	-7%	-11%	6%	11%	36%	22%	7%	-17%	-8%	17%	11%	30%
Amusements	-17%	-8%	-8%	-27%	122%	110%	87%	209%	-3%	-1%	-12%	-4%	-10%	0%	7%	8%	7%	0%	4%	-10%	1%
Health Services	-68%	21%	-27%	-16%	230%	-18%	33%	26%	-28%	22%	-8%	-36%	-42%	-61%	-45%	-32%	-2%	11%	-6%	-12%	-10%
Legal Services	-20%	20%	-8%	-9%	19%	1%	64%	104%	18%	49%	-66%	-41%	18%	-43%	53%	2%	-31%	-7%	-9%	34%	-7%
Miscellaneous Services	6%	62%	11%	5%	74%	9%	4%	13%	20%	14%	17%	2%	16%	143%	211%	172%	29%	-49%	-53%	-41%	21%
Total	11%	16%	8%	5%	5%	-8%	8%	12%	15%	5%	10%	-3%	NA	14%	2%	4%	NA	2%	17%	21%	15%
Total, excl. City Utilities	12%	17%	8%	5%	5%	-8%	8%	13%	16%	5%	10%	-3%	-1%	14%	2%	5%	1%	2%	17%	21%	15%

Table A3-3. Change and Percentage Change in Kodiak Fourth and First Quarter Sales by Business Type, 2004/05–2007/08

	Combined Average Sales, 4th & 1st Quarters (thousands of dollars)				Change of Combined Average Sales, 4th & 1st Quarters to Previous Year, Plus Comparison of 2007/08 to 2004/05							
Business Type	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2005/06**		**2006/07**		**2007/08**		**2007/08 to 2004/05**	
Contractors	9,965	7,655	5,708	9,689	-2,310	-23%	-1,947	-25%	3,981	70%	-276	-3%
Grocery Stores	7,556	7,848	8,123	8,543	292	4%	275	3%	420	5%	987	13%
Canneries	2,902	3,178	3,612	3,797	276	9%	435	14%	184	5%	895	31%
Taxi Cabs	179	156	145	174	-24	-13%	-10	-7%	29	20%	-5	-3%
City Boat Harbor	216	533	587	907	317	147%	54	10%	320	54%	691	320%
Boat Charters	138	215	90	150	77	56%	-124	-58%	59	66%	12	9%
Communications	1,380	1,445	1,618	2,016	65	5%	173	12%	397	25%	636	46%
City Utilities	1,126	NA	1,019	1,068	NA	NA	NA	NA	49	5%	-57	-5%
Utilities	5,494	5,955	6,603	7,218	461	8%	648	11%	615	9%	1,724	31%
Beverage Distributors	323	555	199	507	232	72%	-356	-64%	309	155%	184	57%
Retail Sales	32,233	30,524	29,386	38,164	-1,709	-5%	-1,138	-4%	8,779	30%	5,932	18%
Restaurants	1,783	1,692	1,833	1,888	-91	-5%	141	8%	55	3%	105	6%
Bars/Liquor Stores	2,283	2,268	2,257	2,306	-16	-1%	-11	0%	49	2%	23	1%
Rental/Leases	2,460	2,364	2,457	2,759	-96	-4%	93	4%	302	12%	299	12%
Hotels/Motels/B&B	823	992	843	867	169	20%	-148	-15%	23	3%	44	5%
Beauticians	193	205	208	189	12	6%	4	2%	-19	-9%	-3	-2%
Personal Services	206	188	164	215	-18	-9%	-24	-13%	51	31%	10	5%
Advertising	7	16	4	13	9	129%	-12	-76%	9	229%	6	83%
Artists/Photographers	63	69	82	73	6	10%	13	19%	-10	-12%	10	15%
Business Services	1,179	1,157	1,216	1,140	-23	-2%	59	5%	-76	-6%	-39	-3%
Vehicle Repairs	993	958	1,221	1,406	-35	-3%	263	27%	185	15%	413	42%
Service Stations	862	1,269	3,394	1,709	407	47%	2,126	168%	-1,685	-50%	848	98%
General Repair Services	1,580	1,709	1,620	1,937	129	8%	-88	-5%	317	20%	358	23%
Amusements	272	252	271	259	-20	-7%	19	7%	-12	-4%	-12	-5%
Health Services	97	60	48	43	-38	-39%	-11	-19%	-5	-11%	-54	-56%
Legal Services	410	340	283	324	-71	-17%	-57	-17%	42	15%	-86	-21%
Miscellaneous Services	1,473	1,602	3,137	2,538	130	9%	1,535	96%	-599	-19%	1,065	72%
Total	76,190	NA	76,128	89,898	NA	NA	NA	NA	13,770	18%	13,708	18%
Total, excl. City Utilities	75,065	73,197	75,109	88,830	-1,868	-2%	1,912	3%	13,721	18%	13,765	18%

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