

APPENDIX A

**BSAI CRAB RATIONALIZATION FIVE-YEAR REVIEW
DRAFT SOCIAL IMPACT ASSESSMENT**

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LIST OF ACRONYMS

AC	Alaska Commercial Company
ADFG	Alaska Department of Fish and Game
AEB	Aleutians East Borough
AFA	American Fisheries Act
AHFC	Alaska Housing Finance Corporation
AGDB	Alaska Groundfish Databank
AKCRRAB	Alaska King Crab Research, Rehabilitation, and Biology Program
ANCSA	Alaska Native Claims Settlement Act
APIA	Aleutian Pribilof Islands Association
APICDA	Aleutian Pribilof Islands Community Development Association
APL	American President Lines
APS	Alaska Pacific Seafoods
AWTA	Alaska Whitefish Trawlers Association
AYK	Arctic-Yukon-Kuskokwim
B&B	Bed and Breakfast
BIA	Bureau of Indian Affairs
BSAI	Bering Sea and Aleutian Islands
BSE	Bering Sea Ecotech
CBSFA	Central Bering Sea Fishermen's Association
CDQ	Community Development Quota
CFEC	Commercial Fisheries Entry Commission
CMSA	Consolidated Metropolitan Statistical Area
DCED	Department of Economic and Community Development
DCRA	Alaska Division of Community and Regional Affairs
DSFU	Deep Sea Fishermen's Union of the Pacific
DVD	digital video disc
EAI	Eastern Aleutian Islands
°F	degrees Fahrenheit
FAA	Federal Aviation Administration
FY	fiscal year
GHL	guideline harvest level
IFQ	Individual Fishing Quota
IGAP	Indian General Assistance Program
ILS/DME	instrument landing system/distance measuring equipment
IPQ	Individual Processor Quota
IRA	Indian Reorganization Act
ISER	Institute for Social and Economic Research

KCC	King Cove Corporation
KFDA	Kodiak Fisheries Development Association
KIB	Kodiak Island Borough
LLVOA	Long Line Vessel Owners Association
LTL	less than truckload
mph	miles per hour
MSDH	Multi-Species Development Holdings
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPFMC	North Pacific Fishery Management Council
NPR	National Public Radio
NPRB	North Pacific Research Board
NPS	National Park System
OSI	Offshore Systems, Inc.
PIP	Pribilof Island Processors
PPSF	Peter Pan Seafoods
PQ	Processor Quota
SBX	defense x-band radar
SEIS	Supplemental EIS
SSL SEIS	Steller Sea Lion Protection Measures Supplemental EIS
STC	Sea Technology Company
STIP	Statewide Transportation Improvement Program
TAC	total allowable catch
UAA	University of Alaska Anchorage
UAF	University of Alaska Fairbanks
UFMA	United Fishermen's Marketing Association
USA	United Salmon Association
USACE	U.S. Army Corps of Engineers
USCG	United States Coast Guard
WAI	Western Aleutian Islands
WPRFMC	Western Pacific Regional Fishery Management Council
WWW	Warren Wilson Welding

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 2009, 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 indicators for pre- and post-rationalization implementation years over the span of 1998 through 2009–2010.¹ There

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 the Alaska Commercial Fisheries Entry Commission (CFEC) vessel registration files or the National Oceanic Atmospheric Administration (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 preimplementation community and social impact assessment (NOAA 2004) as well as the 3-year program review social impact assessment (NPFMC 2008, Appendix A) to facilitate pre- and post-implementation Bering Sea and Aleutian Islands (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 preimplementation 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 cited in the 3-year program review social impact assessment 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, also cited in the 3-year program review social impact assessment, 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. (Additional information comparing community of vessel ownership to homeport may be found in Attachment 2.)

For shoreplants, regional or community designation was based on the location of the plant itself (rather than ownership address) 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 preimplementation social impact assessment, as well as in the 3-year program review social impact assessment, although in the case of the

are, however, substantial limitations on the data that can be utilized for these purposes, based on confidentiality restrictions. A prime example of this is where a community is the site of a single processor, or even two or three processors.² 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 held by sector between the initial allocation and the 2010/2011 season (the most recent available information).

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 preimplementation BSAI crab rationalization social impact assessment. These are Unalaska/Dutch Harbor, Akutan, King Cove, Kodiak, Sand Point, Adak, St. Paul, and St. George.³

preimplementation 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.

² The number of data points that need to be lumped to comply with data confidentiality restrictions vary by data source. The CFEC requires aggregation of four data points to permit reporting of what would otherwise be confidential data, while virtually all other data sources require the aggregation of three data points to permit disclosure. In this section, because several data sources draw at least in part on CFEC data, volume and value data are presented only when four or more data points are aggregated.

³ These communities were chosen for the preimplementation crab rationalization social impact assessment based on then-current understandings of the level of engagement in, and dependence on, the BSAI crab fisheries being considered for inclusion in the rationalization program, consistent with National Standard 8 under the Magnuson-Stevens Act. Seven of these eight communities (all but Sand Point) were later determined eligible for community protection measures under the rationalization program as implemented. Eligible Crab Communities were defined as those with 3 percent or more of the qualified landings in any fishery included in the program. In addition to the

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 other documents 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 3⁴). 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), St. Paul (Section 2.2), King Cove (Section 2.3), and Kodiak (Section 2.4). Three of these profiles were updated through fieldwork for this 5-year program review social impact assessment (Unalaska/Dutch Harbor, King Cove, and Kodiak) while one (St. Paul) was updated through phone contacts and written correspondence. While at least some information has been gathered for all eight communities previously analyzed, these four communities were chosen for more comprehensive data collection and profile updating based upon the results of the BSAI crab rationalization program review social impact assessment results.

Each of these profiles explicitly builds upon the profiles of these communities developed for the pre-rationalization crab social impact analysis referenced above and, in the case of Unalaska/Dutch Harbor, King Cove, and Kodiak, on 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 *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak* (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 5-year review-oriented community analysis, it has not been updated in the community profiles included in this document (nor was it updated for the 3-year program review), but this information is readily available⁵ for review in the original document. For the BSAI crab rationalization 3-year program review social impact assessment, the community profiles of Unalaska/Dutch Harbor, Akutan, King Cove, and Kodiak were comprehensively

communities included in the earlier profiles, False Pass and Port Moller were also designated as Eligible Crab Communities, as discussed Section 1.3.9. Community protection measures applicable to these nine Eligible Crab Communities include (or included) right of first refusal on proposed sales of processor quota shares (except for Adak) and a "cooling-off" period (a temporary prohibition against the use of individual processor quota outside of the community or borough boundary in which the individual processor quota was derived). Regions assigned to quota share/individual fishing quota and processing share/individual processing quota for most fisheries protect the Pribilof Islands in the BSAI and an additional "sweep up" measure for processing quota derived within the Gulf of Alaska but otherwise not assigned to a community protects Kodiak Island in the Gulf of Alaska.

⁴ Available at <http://alaskafisheries.noaa.gov/sustainablefisheries/crab/eis/#final>.

⁵ 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.

updated through field efforts and appeared as an appendix to the program review document itself (NPFMC 2008, Appendix A⁶). As part of the update of the community profiles for Unalaska/Dutch Harbor, King Cove, and Kodiak for the current 5-year program review effort, information from the 3-year program review update has been retained where relevant to allow a look at social impacts that were seen to occur at both the 3-year and 5-year marks.

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 were (and remain) readily available⁷ for review, and were distributed to the NPFMC at its constituent bodies during the BSAI crab rationalization 3-year program review process, they were incorporated by reference rather than reproduced in the 3-year program review social impact assessment itself. The St. Paul community profile included in this 5-year program review explicitly builds upon and updates this earlier St. Paul community profile.

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 2009/2010 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.⁸ 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 crab⁹ fisheries, as participation in the other rationalized BSAI crab fisheries was concentrated in a relatively few communities, are of relatively lesser economic importance, 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 for the Bering Sea snow crab fishery. Post-rationalization averages are based on annual data from the 2005/2006 through the 2009/2010 seasons for both fisheries.¹⁰

⁶ Available at http://www.fakr.noaa.gov/npfmc/current_issues/crab/3yearreview1208_appendix.pdf.

⁷ 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.

⁸ Crab rationalization community analysis dataset, NPFMC 2010. Also referred to in this social impact assessment document as the “BSAI crab fishery 1998–2010 dataset” the “crab dataset,” or simply the “dataset.”

⁹ Bering Sea snow crab is also referred to as “Bering Sea *C. opilio*” or simply “opilio” in other parts of this document.

¹⁰ Consistent with the approach used in the main body of this crab rationalization 5-year program review dollar figures in this social impact assessment are typically not adjusted for inflation. As stated in the main document, “generally, inflation rates have been low in recent years, averaging less than three percent per year . . . In addition, crab prices tend to vacillate erratically with variation that greatly exceeds inflation rates. Consequently, dollars in the tables in this report are not inflated (unless specifically noted).”

It is important to note the years included in the pre-rationalization annual average calculations shown in the tables in this section are not the same years that were used as the base years to determine qualification for the rationalization program and the level of initial quota allocation under the program, nor are they the same years that were used as a baseline for the preimplementation *BSAI Crab Fisheries Final Environmental Impact Statement Social Impact Assessment* (NOAA 2004, Appendix 3). The base years for rationalization program qualification and initial allocation of BSAI crab fishing quota were 1996–2000, with one throw-away year. The baseline years used for the preimplementation social impact assessment were 1991–2000, or the same ending date as for the program qualification period itself. For the purposes of post-implementation social impact analysis, more recent years were included as changes in communities did occur after the close of the qualification period and before the actual implementation of the program. Participants in the fishery itself made decisions during the “in between” time predicated upon the knowledge that a rationalization program would likely be implemented and their understanding of their likely position within that program once implementation occurred. For communities, however, time did not pause with the end of the qualifying period, and local governments, businesses, and individuals continued to adapt to existing conditions during the interstitial time as they did before and continued to do after. It is against this backdrop that the impacts to communities are analyzed in this document.

It is also important to note that by using an annual average for a number of indicators for pre- and post-rationalization years, trends within those two time periods may be obscured. For example, just by looking at the vessel counts, it is apparent that the average number of vessels actively participating in the BSAI crab fisheries on an annual basis was much higher in the pre-rationalization years covered by the dataset than in the post-rationalization years covered by the dataset. These tables do not, however, allow the reader to know if the consolidation of the fleet happened all at once or took place more gradually. Similarly, a very large change in pre- and post-rationalization annual averages in Bering Sea snow crab harvest is due to a sharp reduction in guideline harvest levels (GHLs) and total allowable catch (TAC) levels that occurred during the pre-rationalization period, not something that occurred as a result of BSAI crab rationalization or even coincidental with the implementation of rationalization. To address the likely interest of at least some readers to more fully explore trend information but at the same time not make the tables in this section unwieldy, parallel year-by-year data for each of the “annual averages” tables presented in this section are available in Attachment 1. The tables in Attachment 1 follow a similar numbering convention to those in this section for ease of cross-reference.

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 (1998–2009/2010). The post-rationalization consolidation of the fleet is 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.

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

Fishery	1998–2004/05 Annual Average† (Pre-Rationalization)	2005–2010 Annual Average (Post-Rationalization)
Pounds		
Bristol Bay Red	11,165,019	17,312,411
Bering Sea Snow	72,912,463	44,739,896
Eastern Aleutian Golden	3,045,172	2,994,399
Western Aleutian Golden	**	**
Bering Tanner East	NA	1,237,055
Bering Tanner West	NA	351,434
Value		
Bristol Bay Red	\$52,936,158	\$75,690,248
Bering Sea Snow	\$72,593,203	\$62,428,993
Eastern Aleutian Golden	\$9,318,065	\$7,548,387
Western Aleutian Golden	**	**
Bering Tanner East	NA	\$1,966,135
Bering Tanner West	NA	\$533,901
Vessels		
Bristol Bay Red	249	77
Bering Sea Snow	206	71
Eastern Aleutian Golden	17	4
Western Aleutian Golden	8	2
Bering Tanner East	NA	23
Bering Tanner West	NA	35
Average Value per Pound		
Bristol Bay Red	\$4.74	\$4.37
Bering Sea Snow	\$1.00	\$1.40
Eastern Aleutian Golden	\$3.06	\$2.52
Western Aleutian Golden	**	**
Bering Tanner East	NA	\$1.59
Bering Tanner West	NA	\$1.52
Average Value per Vessel		
Bristol Bay Red	\$212,230	\$982,990
Bering Sea Snow	\$353,252	\$879,282
Eastern Aleutian Golden	\$548,121	\$1,887,097
Western Aleutian Golden	**	**
Bering Tanner East	NA	\$85,484
Bering Tanner West	NA	\$15,254

†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: ADFG 2010; CFEC 2010.

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).¹¹ As shown, the annual average participation in the Bristol Bay red king crab fishery dropped from 244 vessels pre-rationalization to 77 vessels post-rationalization, while the analogous drop was from 200 to 71 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 the South-Central region increased. In the case of Kodiak, the percent of vessels participating in the Bristol Bay red king crab fishery declined slightly, while the percentage of vessels participating in the Bering Sea snow crab fishery increased.

In general, with post-rationalization fleet consolidation, while all participating Alaska communities typically lost crab vessels, vessels tended to aggregate in fewer and often larger communities. Within the South-Central region, for example, following rationalization only vessels from Anchorage, Homer, and Seldovia continued to participate in either or both the Bristol Bay red king crab and Bering Sea snow crab fisheries, and only Anchorage and Homer increased their relative proportion of the overall fleet compared to pre-rationalization conditions, with Seldovia averaging less than one vessel per year in both the Bristol Bay red king crab and Bering Sea snow crab fisheries under post-rationalization conditions. The South-Central community of Wasilla does not show as having any vessel ownership participation pre-rationalization and minimal participation post-rationalization (with one vessel only showing up in the 2009/2010 Bristol Bay red king crab and Bering Sea snow crab fisheries), but is the only community shown in the data as having vessel ownership in any post-rationalization year that did not have local vessel ownership in some year pre-rationalization. Within Southeast Alaska, no community except Ketchikan has participated in the post-rationalization fleet, and then at an annual average of less than one vessel per year. Within the Aleutians region, only King Cove has been represented in the post-rationalization Bristol Bay red king crab fleet and only Unalaska/Dutch Harbor has been represented in the post-rationalization Bering Sea snow crab fleet. (Looking at the year-by-year data presented in Attachment 1, no vessels from either the Southeast or the Aleutian regions participated in either the Bristol Bay red king crab fishery or the Bering Sea snow crab fishery during the most recent full year for which data are available [2009]). It is important to note, however, that relatively few vessels from small communities have historically participated in the capital-intensive BSAI crab fisheries and that because of the small numbers involved, even slight shifts in participation make a relatively large percentage

¹¹ The 1998–2004 annual averages pre-rationalization in this table (Table 1-2) vary slightly from the analogous pre-rationalization averages that appeared in the crab rationalization 3-year program review, due to a minor vessel historic ownership attribution error that was uncovered when undertaking the analysis for this 5-year program review. This is also true for Table 1-3, Table 1-4, Table 1-5, and Table 1-6. This historic ownership attribution error is not large enough to significantly change any of the social impact assessment findings in the crab rationalization 3-year program review.

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)		2005–2009 Annual Average (Post-Rationalization)		1998–2005 Annual Average (Pre-Rationalization)		2005–2009 Annual Average (Post-Rationalization)	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alaska	South-Central	Anchor Point	0.1	0.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		Anchorage	6.1	2.5%	3.6	4.7%	5.9	2.9%	4.2	5.9%
		Big Lake	0.1	0.1%	0.0	0.0%	0.1	0.1%	0.0	0.0%
		Cordova	1.6	0.6%	0.0	0.0%	1.3	0.6%	0.0	0.0%
		Homer	7.3	3.0%	3.2	4.2%	6.8	3.4%	3.4	4.8%
		Kenai	0.6	0.2%	0.0	0.0%	0.6	0.3%	0.0	0.0%
		Seldovia	1.0	0.4%	0.8	1.0%	1.0	0.5%	0.8	1.1%
		Seward	0.9	0.4%	0.0	0.0%	0.6	0.3%	0.0	0.0%
		Wasilla	0.0	0.0%	0.2	0.3%	0.0	0.0%	0.2	0.3%
		<i>South-Central Subtotal</i>	<i>17.7</i>	<i>7.2%</i>	<i>7.8</i>	<i>10.2%</i>	<i>16.3</i>	<i>8.1%</i>	<i>8.6</i>	<i>12.0%</i>
	Southeast	Ketchikan	1.0	0.4%	0.4	0.5%	1.0	0.5%	0.4	0.6%
		Pelican	0.0	0.0%	0.0	0.0%	0.1	0.1%	0.0	0.0%
		Petersburg	3.4	1.4%	0.0	0.0%	3.3	1.6%	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%
		<i>Southeast Subtotal</i>	<i>7.0</i>	<i>2.9%</i>	<i>0.4</i>	<i>0.5%</i>	<i>6.8</i>	<i>3.4%</i>	<i>0.4</i>	<i>0.6%</i>
	Aleutians	Akutan	0.4	0.2%	0.0	0.0%	0.3	0.1%	0.0	0.0%
		Unalaska/Dutch Harbor	0.9	0.4%	0.0	0.0%	0.8	0.4%	0.2	0.3%
		King Cove	2.4	1.0%	1.0	1.3%	1.5	0.7%	0.0	0.0%
		Sand Point	2.3	0.9%	0.0	0.0%	1.1	0.6%	0.0	0.0%
		<i>Aleutians Subtotal</i>	<i>6.0</i>	<i>2.5%</i>	<i>1.0</i>	<i>1.3%</i>	<i>3.6</i>	<i>1.8%</i>	<i>0.2</i>	<i>0.3%</i>
	<i>All Subregions (non-Kodiak)</i>	<i>30.7</i>	<i>12.6%</i>	<i>9.2</i>	<i>12.0%</i>	<i>26.6</i>	<i>13.3%</i>	<i>9.2</i>	<i>12.9%</i>	
	Kodiak	Kodiak	34.0	13.9%	10.4	13.5%	26.9	13.4%	9.6	13.4%
Alaska Total		64.7	26.5%	19.6	25.5%	53.5	26.7%	18.8	26.3%	
Washington	Seattle-Tacoma CMSA	137.4	56.2%	42.6	55.5%	110.3	55.0%	40.6	56.9%	
	Other Washington	16.9	6.9%	5.0	6.5%	15.1	7.5%	2.4	3.4%	
	Washington Total	154.3	63.1%	47.6	62.0%	125.4	62.5%	43.0	60.2%	
Oregon	Oregon Total	19.1	7.8%	8.4	10.9%	16.4	8.2%	8.4	11.8%	
Other U.S.	Other U.S. Total	6.3	2.6%	1.2	1.6%	5.3	2.6%	1.2	1.7%	
All States	All States Total	244.4	100.0%	76.8	100.0%	200.5	100.0%	71.4	100.0%	

Source: ADFG 2010; CFEC 2010.

difference in results. Nevertheless, the consolidation trends noted appear to be unidirectional and consistent, and the participation of even a very few vessels may be important in a small community for a number of reasons, as detailed in the community profiles in Chapter 2.0. Overall, Alaska as a whole accounted for a slightly smaller percentage of the Bristol Bay red king crab and Bering Sea snow crab fleets on an annual basis post-rationalization than was the case pre-rationalization.

Outside of Alaska, vessels owned by residents of the Seattle-Tacoma Consolidated Metropolitan Statistical Area (CMSA)¹² 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. Percentages declined slightly post-rationalization for Washington as a whole, but increased for the Seattle-Tacoma CMSA in the Bering Sea snow crab fishery, generally mirroring the Alaska trend of fleet aggregation into fewer and larger communities (but the same did not happen for the Bristol Bay red king crab fishery). The percentage of Oregon vessels in the post-rationalization fleet has been higher on an annual average basis than was the case in the pre-rationalization fleet, while the opposite is the case for vessels from all states outside of Alaska, Washington, and Oregon combined.

1.2.3 Catcher Vessel Crab Harvest Volume and Value by Community

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.)

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.

As shown in Table 1-3, 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. This, however, was a function of GHs or TAC rather than a function of rationalization.

In proportional terms, overall, the annual average proportion of volumes of landings for Kodiak vessels decreased in both the Bristol Bay red king crab and the Bering Sea snow crab fisheries under post-rationalization conditions compared to pre-rationalization conditions. The opposite pattern is seen for Alaska vessels outside of Kodiak and for vessels from all areas of Alaska combined. While the Alaska portion of the overall crab fleet is slightly smaller proportionally

¹² The Seattle-Tacoma Consolidated Metropolitan Statistical Area is composed of King, Pierce, and Snohomish counties.

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)		2005–2010 Annual Average (Post-Rationalization)		1998–2005 Annual Average (Pre-Rationalization)		2005–2010 Annual Average (Post-Rationalization)	
		Pounds	Percent	Pounds	Percent	Pounds	Percent	Pounds	Percent
Alaska	Kodiak	1,336,809	12.1%	2,065,594	11.9%	9,434,463	13.1%	5,387,661	12.0%
	All Subregions (non-Kodiak)	1,274,811	11.5%	2,233,113	12.9%	9,463,787	13.1%	7,570,349	16.9%
	<i>Alaska Total</i>	<i>2,611,620</i>	<i>23.6%</i>	<i>4,298,708</i>	<i>24.8%</i>	<i>18,898,250</i>	<i>26.3%</i>	<i>12,958,009</i>	<i>29.0%</i>
<i>Washington</i>		<i>7,282,879</i>	<i>65.9%</i>	<i>10,879,629</i>	<i>62.8%</i>	<i>46,421,945</i>	<i>64.5%</i>	<i>26,710,072</i>	<i>59.7%</i>
<i>Oregon and Other U.S.</i>		<i>1,158,097</i>	<i>10.5%</i>	<i>2,134,074</i>	<i>12.3%</i>	<i>6,650,292</i>	<i>9.2%</i>	<i>5,071,815</i>	<i>11.3%</i>
All States Total		11,052,597	100.0%	17,312,411	100.0%	71,970,487	100.0%	44,739,896	100.0%

Source: ADFG 2010; CFEC 2010.

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)		2005–2010 Annual Average (Post-Rationalization)		1998–2005 Annual Average (Pre-Rationalization)		2005–2010 Annual Average (Post-Rationalization)	
		Dollars	Percent	Dollars	Percent	Dollars	Percent	Dollars	Percent
Alaska	Kodiak	\$6,381,737	12.2%	\$9,260,972	12.2%	\$9,217,332	13.0%	\$7,637,606	12.2%
	All Subregions (non-Kodiak)	\$5,998,490	11.4%	\$9,838,639	13.0%	\$8,693,960	12.2%	\$10,872,754	17.4%
	<i>Alaska Total</i>	<i>\$12,380,227</i>	<i>23.6%</i>	<i>\$19,099,611</i>	<i>25.2%</i>	<i>\$17,911,292</i>	<i>25.2%</i>	<i>\$18,510,361</i>	<i>29.7%</i>
<i>Washington</i>		<i>\$34,489,305</i>	<i>65.8%</i>	<i>\$47,324,639</i>	<i>62.5%</i>	<i>\$45,930,575</i>	<i>64.6%</i>	<i>\$36,875,061</i>	<i>59.1%</i>
<i>Oregon and Other U.S.</i>		<i>\$5,527,587</i>	<i>10.5%</i>	<i>\$9,265,998</i>	<i>12.2%</i>	<i>\$7,225,317</i>	<i>10.2%</i>	<i>\$7,043,572</i>	<i>11.3%</i>
All States Total		\$52,397,119	100.0%	\$75,690,248	100.0%	\$71,067,184	100.0%	\$62,428,993	100.0%

Source: ADFG 2010; CFEC 2010.

than it was prior to rationalization (and much smaller in absolute terms than it was prior to rationalization), it accounts for a higher proportion of landings than it did prior to rationalization.

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 of 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. For Oregon vessels and vessels from states other than Alaska, Washington, and Oregon, either the Oregon totals could be shown, or the overall fleet totals could be shown, but not both, so the decision was made to combine Oregon vessel totals with those from states other than Alaska and Washington to allow overall crab fleet totals to be shown.

Overall, under post-rationalization conditions, the annual average proportion of landings by volume for Washington vessels decreased compared to the overall crab fleet in both the Bristol Bay red king crab and the Bering Sea snow crab fisheries compared to pre-rationalization conditions (although, again, for the Bristol Bay red king crab fishery, absolute numbers for landings increased). In the case of vessels from Oregon and all other states (except Alaska and Washington) combined, the proportion of landings increased post-rationalization compared to pre-rationalization conditions.

As shown in Table 1-4, values generally tracked with volumes for Kodiak and Alaska vessels in general, although the annual average percentage of value of the Bristol Bay red king crab fishery was essentially the same pre-rationalization to post-rationalization for Kodiak vessels, and value gains in the Bering Sea snow crab fishery were somewhat larger for Alaska vessels outside of Kodiak and for Alaska vessels as a whole compared to gains in the Bristol Bay red king crab fishery. 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 59 percent of the total fishery catcher vessel harvest compared to approximately 65 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).

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)		2006–2009 Annual Average (Post-Rationalization)	
			Pounds	Percent	Pounds	Percent
Alaska	Kodiak	Rationalized Crab	12,443,852	18.0%	8,042,712	14.2%
		Non-Rationalized Crab	623,785	0.9%	105,859	0.2%
		Groundfish	52,808,003	76.5%	46,286,381	81.4%
		Salmon	493,400	0.7%	714,778	1.3%
		Herring	7,776	0.0%	0	0.0%
		Halibut	2,558,208	3.7%	1,141,825	2.0%
		Other Species	104,399	0.2%	542,739	1.0%
	All Subregions (non-Kodiak)	Rationalized Crab	12,070,241	44.2%	10,489,034	45.2%
		Non-Rationalized Crab	1,236,231	4.5%	311,853	1.3%
		Groundfish	11,443,287	41.9%	8,683,390	37.4%
		Salmon	1,955,622	7.2%	2,939,345	12.7%
		Herring	0	0.0%	0	0.0%
		Halibut	608,845	2.2%	475,230	2.0%
		Other Species	19,860	0.1%	297,544	1.3%
	<i>Alaska Total</i>	<i>Rationalized Crab</i>	<i>24,514,093</i>	<i>25.4%</i>	<i>18,531,746</i>	<i>23.2%</i>
		<i>Non-Rationalized Crab</i>	<i>1,860,016</i>	<i>1.9%</i>	<i>417,712</i>	<i>0.5%</i>
		<i>Groundfish</i>	<i>64,251,290</i>	<i>66.7%</i>	<i>54,969,772</i>	<i>68.7%</i>
		<i>Salmon</i>	<i>2,449,022</i>	<i>2.5%</i>	<i>3,654,123</i>	<i>4.6%</i>
<i>Herring</i>		<i>7,776</i>	<i>0.0%</i>	<i>0</i>	<i>0.0%</i>	
<i>Halibut</i>		<i>3,167,053</i>	<i>3.3%</i>	<i>1,617,055</i>	<i>2.0%</i>	
<i>Other Species</i>		<i>124,259</i>	<i>0.1%</i>	<i>840,283</i>	<i>1.0%</i>	
<i>Washington Total</i>	<i>Rationalized Crab</i>	<i>60,927,744</i>	<i>9.0%</i>	<i>40,108,394</i>	<i>6.5%</i>	
	<i>Non-Rationalized Crab</i>	<i>2,869,793</i>	<i>0.4%</i>	<i>247,783</i>	<i>0.0%</i>	
	<i>Groundfish</i>	<i>615,262,775</i>	<i>90.5%</i>	<i>573,749,383</i>	<i>93.0%</i>	
	<i>Salmon</i>	<i>422,914</i>	<i>0.1%</i>	<i>1,339,819</i>	<i>0.2%</i>	
	<i>Herring</i>	<i>357</i>	<i>0.0%</i>	<i>0</i>	<i>0.0%</i>	
	<i>Halibut</i>	<i>125,398</i>	<i>0.0%</i>	<i>357,526</i>	<i>0.1%</i>	
	<i>Other Species</i>	<i>419,068</i>	<i>0.1%</i>	<i>877,596</i>	<i>0.1%</i>	
<i>Oregon and Other U.S. Total</i>	<i>Rationalized Crab</i>	<i>9,839,388</i>	<i>14.0%</i>	<i>8,878,615</i>	<i>14.1%</i>	
	<i>Non-Rationalized Crab</i>	<i>278,786</i>	<i>0.4%</i>	<i>490,707</i>	<i>0.8%</i>	
	<i>Groundfish</i>	<i>57,969,383</i>	<i>82.7%</i>	<i>52,164,671</i>	<i>82.9%</i>	
	<i>Salmon</i>	<i>144</i>	<i>0.0%</i>	<i>0</i>	<i>0.0%</i>	
	<i>Herring</i>	<i>14,323</i>	<i>0.0%</i>	<i>0</i>	<i>0.0%</i>	
	<i>Halibut</i>	<i>1,924,247</i>	<i>2.7%</i>	<i>948,229</i>	<i>1.5%</i>	
	<i>Other Species</i>	<i>107,937</i>	<i>0.2%</i>	<i>433,239</i>	<i>0.7%</i>	
All States Total	Rationalized Crab	95,281,225	11.3%	67,518,755	8.9%	
	Non-Rationalized Crab	5,008,596	0.6%	1,156,201	0.2%	
	Groundfish	737,483,448	87.1%	680,883,826	89.6%	
	Salmon	2,872,080	0.3%	4,993,942	0.7%	
	Herring	22,455	0.0%	0	0.0%	
	Halibut	5,216,698	0.6%	2,922,810	0.4%	
	Other Species	651,264	0.1%	2,151,118	0.3%	

Source: ADFG 2010; CFEC 2010.

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)		2006–2009 Annual Average (Post-Rationalization)	
			Dollars	Percent	Dollars	Percent
Alaska	Kodiak	Rationalized Crab	\$18,256,152	53.8%	\$18,607,322	51.9%
		Non-Rationalized Crab	\$1,232,954	3.6%	\$202,603	0.6%
		Groundfish	\$8,620,478	25.4%	\$11,279,545	31.4%
		Salmon	\$37,506	0.1%	\$161,353	0.4%
		Herring	\$1,641	0.0%	\$0	0.0%
		Halibut	\$5,717,644	16.9%	\$4,694,749	13.1%
		Other Species	\$43,941	0.1%	\$928,851	2.6%
	All Subregions (non-Kodiak)	Rationalized Crab	\$16,155,491	71.7%	\$23,922,261	74.7%
		Non-Rationalized Crab	\$2,291,119	10.2%	\$667,904	2.1%
		Groundfish	\$2,337,081	10.4%	\$4,108,313	12.8%
		Salmon	\$417,204	1.9%	\$737,514	2.3%
		Herring	\$0	0.0%	\$0	0.0%
		Halibut	\$1,322,088	5.9%	\$1,940,974	6.1%
		Other Species	\$7,353	0.0%	\$664,859	2.1%
	Alaska Total	Rationalized Crab	\$34,411,642	61.0%	\$42,529,583	62.6%
		Non-Rationalized Crab	\$3,524,073	6.2%	\$870,507	1.3%
		Groundfish	\$10,957,558	19.4%	\$15,387,858	22.7%
		Salmon	\$454,711	0.8%	\$898,868	1.3%
		Herring	\$1,641	0.0%	\$0	0.0%
		Halibut	\$7,039,733	12.5%	\$6,635,723	9.8%
		Other Species	\$51,294	0.1%	\$1,593,710	2.3%
Washington Total	Rationalized Crab	\$91,520,640	55.2%	\$91,244,494	47.5%	
	Non-Rationalized Crab	\$6,004,204	3.6%	\$1,007,803	0.5%	
	Groundfish	\$67,757,110	40.9%	\$97,648,803	50.8%	
	Salmon	\$36,364	0.0%	\$365,573	0.2%	
	Herring	\$19	0.0%	\$0	0.0%	
	Halibut	\$317,875	0.2%	\$1,438,058	0.7%	
	Other Species	\$29,786	0.0%	\$346,090	0.2%	
Oregon and Other U.S. Total	Rationalized Crab	\$17,728,832	57.1%	\$19,630,191	53.2%	
	Non-Rationalized Crab	\$656,372	2.1%	\$1,055,461	2.9%	
	Groundfish	\$8,191,777	26.4%	\$11,613,779	31.5%	
	Salmon	\$120	0.0%	\$0	0.0%	
	Herring	\$3,251	0.0%	\$0	0.0%	
	Halibut	\$4,462,044	14.4%	\$3,843,039	10.4%	
	Other Species	\$31,284	0.1%	\$768,708	2.1%	
All States Total	Rationalized Crab	\$143,661,114	56.7%	\$153,404,269	51.7%	
	Non-Rationalized Crab	\$10,184,649	4.0%	\$2,933,771	1.0%	
	Groundfish	\$86,906,445	34.3%	\$124,650,440	42.0%	
	Salmon	\$491,195	0.2%	\$1,264,441	0.4%	
	Herring	\$4,910	0.0%	\$0	0.0%	
	Halibut	\$11,819,652	4.7%	\$11,916,821	4.0%	
	Other Species	\$112,365	0.0%	\$2,708,508	0.9%	

Source: ADFG 2010; CFEC 2010.

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.¹³ (Tables A1-7a and A1-7b 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 Akutan, King Cove, and Kodiak show an annual average of one or more than one processor pre- and post-rationalization for both Bristol Bay red king and Bering Sea snow crab. St. Paul shows an annual average of more than one processor pre- and post-rationalization for Bering Sea snow crab, but not for Bristol Bay red king crab. In the case of St. Paul, the number of processors shown, especially for Bering Sea snow crab, has been clearly influenced in recent years by the trend of custom processing, where a single entity physically present in the community is running product for other processors more typically based elsewhere that find custom processing arrangements advantageous under the rationalized fishery system, particularly in light of the regionalization features built into the rationalization program. 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-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.¹⁴

¹³ The pre-rationalization annual averages in Table 1-7 vary slightly from the analogous pre-rationalization averages that appeared in the crab rationalization 3-year program review, due to two factors. First, slightly smaller rounding errors appear in the current version of the table, due to a change in the way averages were calculated (and specifically when in the process rounding occurred). Second, 2005 data were excluded from the 3-year program review version of the table and included in the current version of the table. The exclusion of 2005 data in the earlier version of Table 1-7 was an attempt to avoid a “double count” of processor activity for species that had two open seasons during the 2005 calendar year as a result of rationalization and simply the data presentation through this conservative approach. Data used for the 5-year program review, however, are more detailed with regard to processor pre- and post-rationalization activities for 2005, allowing 2005 data to be included in pre-rationalization annual average calculations for Bering Sea snow crab and Western Aleutian Islands (WAI) golden king crab (and in post-rationalization averages for all species shown [understanding that post-rationalization annual averages are also potentially influenced by the additional years that passed between the 3-year program review and the 5-year program review]). The changes to pre-rationalization annual averages brought about by these two factors are not large enough to significantly change any of the social impact assessment findings in the crab rationalization 3-year program review.

¹⁴ The only catcher processors shown as owned by a resident of an Alaska community in the 1998–2010 dataset are one Kodiak-owned vessel that participated in the Bristol Bay red king crab fishery in 2002 only and a second Kodiak-owned vessel that participated in the EAI golden king crab fishery in 2006 and the WAI golden king crab fishery from 2000 through 2006. In subsequent years, the latter vessel is shown in the dataset as Washington-owned.

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)		2005–2010 Annual Average (Post-Rationalization)		1998–2005 Annual Average (Pre-Rationalization)		2005–2010 Annual Average (Post-Rationalization)		1998–2004 Annual Average (Pre-Rationalization)		2005–2010 Annual Average (Post-Rationalization)		1998–2005 Annual Average (Pre-Rationalization)		2005–2010 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	0.4%	0.0	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	0.4%	0.0	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	0.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
	<i>South-Central Total</i>	<i>0.0</i>	<i>0.0%</i>	<i>0.0</i>	<i>0.0%</i>	<i>0.4</i>	<i>1.2%</i>	<i>0.0</i>	<i>0.0%</i>	<i>0.0</i>	<i>0.0%</i>	<i>0.0</i>	<i>0.0%</i>	<i>0.0</i>	<i>0.0%</i>	<i>0.0</i>	<i>0.0%</i>
Southeast	Sitka	0.0	0.0%	0.2	1.1%	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	0.5%	0.0	0.0%	0.1	0.4%	0.0	0.0%	0.9	17.1%	0.0	0.0%	1.9	28.3%	1.2	20.7%
	Akutan	1.0	3.8%	1.4	8.0%	0.9	2.9%	1.2	5.5%	0.1	2.9%	0.4	7.4%	0.0	0.0%	0.0	0.0%
	Unalaska/Dutch Harbor	6.4	24.3%	5.4	30.7%	6.6	21.6%	5.8	26.4%	3.6	71.4%	4.2	77.8%	2.9	43.4%	3.0	51.7%
	King Cove	1.4	5.4%	1.8	10.2%	1.1	3.7%	1.0	4.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
	Sand Point	0.4	1.6%	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	0.0%
	St. Paul	0.4	1.6%	1.4	8.0%	2.0	6.5%	4.2	19.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
	<i>Aleutians Total</i>	<i>9.9</i>	<i>37.3%</i>	<i>10.0</i>	<i>56.8%</i>	<i>10.8</i>	<i>35.1%</i>	<i>12.2</i>	<i>55.5%</i>	<i>4.6</i>	<i>91.4%</i>	<i>4.6</i>	<i>85.2%</i>	<i>4.8</i>	<i>71.7%</i>	<i>4.2</i>	<i>72.4%</i>
Kodiak	Kodiak	4.4	16.8%	3.6	20.5%	1.9	6.1%	2.0	9.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Floating Catcher Processors		5.4	20.5%	3.0	17.0%	5.1	16.7%	3.6	16.4%	0.0	0.0%	0.6	11.1%	0.9	13.2%	1.0	17.2%
Inshore Stationary Floating Processors		2.6	9.7%	0.8	4.5%	4.4	14.3%	4.2	19.1%	0.0	0.0%	0.2	3.7%	0.0	0.0%	0.6	10.3%
Floating Domestic Mothership		0.0	0.0%	0.0	0.0%	0.1	0.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.1	1.9%	0.0	0.0%
Unknown		4.1	15.7%	0.0	0.0%	8.0	26.1%	0.0	0.0%	0.4	8.6%	0.0	0.0%	0.9	13.2%	0.0	0.0%
Total All Areas		26.4	100.0%	17.6	100.0%	30.6	100.0%	22.0	100.0%	5.0	100.0%	5.4	100.0%	6.6	100.0%	5.8	100.0%

Note: Not all percentages add up due to rounding introduced in computing pre- and post-rationalization averages.
Source: ADFG 2010; CFEC 2010.

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 this 5-year review, the geographic distribution of B and C share processing compared to A share processing has varied by year and fishery over the 5 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 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, as reported in the 3-year program review. During the most recent seasons (2008/2009 and 2009/2010), between 66 and 67 percent of Bristol Bay red king crab A shares were processed in Unalaska and Akutan combined, while between 79 and 84 percent of B shares were processed in those communities those same years, mirroring the pattern seen in the 2007/2008 season. For all five post-rationalization seasons, C share processing has tended to track more closely with A share processing, except for the 2008/2009 season when 88 percent of Bristol Bay red king crab C shares were processed in Unalaska and Akutan combined.

For the Bering Sea snow crab fishery, proportionally far more B share processing (between 67.2 percent and 89.3 percent of Individual Fishing Quota [IFQ] pool) and C share processing (between 70.3 percent and 87.4 percent of IFQ pool) tended to take place in Unalaska and Akutan than did A share processing (between 34.1 percent and 46.1 percent of share type) across the first 3 years of the program, also as reported in the 3-year program review; similar comparisons could not be consistently made for King Cove and Kodiak combined because of confidentiality restrictions. During the most recent seasons (2008/2009 and 2009/2010), Unalaska and Akutan combined accounted for between 30 and 35 percent of Bering Sea snow crab A share processing, but more than double that percentage for the other share types, accounting for between 72 and 86 percent of B share processing and 72 and 90 percent of C share processing.

1.2.6 Quota Share Distribution by Community

Initial allocations of quota share by community for catcher vessel operator, catcher vessel crew, catcher processor owner, and catcher processor crew shares, along with the distribution of those share types as of the IFQ allocation process for the 2010/2011 season are discussed in more detail in the individual community summaries in Section 1.3 below. This information is also

presented in greater detail in tabular form in Attachment 1 (Tables A1-8 through A1-11). While share distribution cannot be used for analysis of pre- and post-rationalization conditions, these data do provide a useful means for looking at distributional changes that have occurred over the life of the rationalization program itself, from the time of initial share allocation (2005/2006) through the most recent quota allocation process (2010/2011).

Catcher Vessel Owner Shares Distribution

As shown in Table 1-8, relatively few Alaska communities had residents receive initial allocations for Bristol Bay red king crab catcher vessel owner shares. These include Anchorage, Dillingham, Homer, and Seldovia in the South-Central region; Petersburg and Yakutat in the Southeast region; Unalaska/Dutch Harbor and King Cove in the Aleutians region; and Kodiak in its own region. By the time of the 2010/2011 allocation process, all of these communities either maintained or increased their number of unique quota holders, with the exception of Petersburg, which had two unique holders at the time of the initial allocation, but only one by the time of the 2010/2011 allocation. Additionally, while not receiving any initial allocation, residents of Soldotna and Wasilla in the South-Central region and St. Paul in the Aleutian region held at least some catcher vessel owner quota by the time of the 2010/2011 quota allocation process. Residents of Petersburg, Yakutat, and King Cove held fewer quota units by the time of the 2010/2011 allocation process compared to quota units held at initial allocation; all other Alaska communities listed gained quota units over this time period. In sum, Alaska communities as a group, between initial allocation and 2010/2011, went from 39 to 54 unique catcher vessel owner quota holders in the Bristol Bay red king crab fishery; they also went from owning 16.1 percent to 25.5 percent of the total catcher vessel owner quota units in the Bristol Bay red king crab fishery.

The number of Washington unique holders of catcher vessel owner quota increased for the Bristol Bay red king crab fishery (from 158 to 165) between initial allocation and 2010/2011; however, amount of quota units held declined (from 69.3 percent to 62.6 percent) over this same period. In the case of Oregon, both the number of unique holders of catcher vessel owner shares and the amount of quota share units held declined in the Bristol Bay red king crab fishery between initial allocation and 2010/2011. In the case of states other than Alaska, Washington, or Oregon, both the number of unique holders of catcher vessel owner shares and the amount of quota share units held increased in the Bristol Bay red king crab fishery between initial allocation and 2010/2011.

Also as shown in Table 1-8, the same patterns of change for catcher vessel owner quota occur for Alaska communities for the Bering Sea snow crab fishery as were seen for the Bristol Bay red king crab fishery, with a few exceptions. For the Bering Sea snow crab fishery, the number of unique quota holders in Petersburg has increased and both Petersburg and Yakutat have retained the same number of quota units held from initial allocation through 2010/2011 (meaning that no Alaska community has seen a decrease in unique holders of catcher vessel owner quota and that King Cove is the only Alaska community that has seen a decrease in locally held catcher vessel owner quota units from the time of initial allocation to 2010/2011 for the Bering Sea snow crab fishery). In sum, Alaska communities as a group, between initial allocation and 2010/2011, went from 38 to 57 unique catcher vessel owner quota holders in the Bering Sea snow crab fishery; they also went from owning 16.4 percent to 27.6 percent of the total catcher vessel owner quota units in the Bering Sea snow crab fishery. For Washington, the number of unique quota holders

Table 1-8. CVO Shares by Community, Bristol Bay Red and Bering Sea Snow, Initial Allocation and 2010/11 Distribution

State	Subarea	Community	Bristol Bay Red								Bering Sea Snow							
			Total Number of Unique Holders				Total Number of Quota Units				Total Number of Unique Holders				Total Number of Quota Units			
			Initial		2010–2011		Initial		2010–2011		Initial		2010–2011		Initial		2010–2011	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alaska	South-Central	Anchorage	8	3.3%	8	3.1%	11,675,744	3.1%	32,038,630	8.6%	8	3.5%	10	4.2%	24,434,682	2.8%	81,611,245	9.2%
		Dillingham	1	0.4%	1	0.4%	3,307,771	0.9%	5,154,862	1.4%	1	0.4%	1	0.4%	8,261,724	0.9%	13,205,356	1.5%
		Homer	3	1.2%	5	2.0%	5,669,820	1.5%	9,875,417	2.7%	3	1.3%	5	2.1%	15,335,150	1.7%	24,538,551	2.8%
		Seldovia	1	0.4%	1	0.4%	1,138,742	0.3%	1,138,742	0.3%	1	0.4%	1	0.4%	4,103,172	0.5%	4,103,172	0.5%
		Soldotna	0	0.0%	1	0.4%	0	0.0%	455,687	0.1%	0	0.0%	1	0.4%	0	0.0%	1,151,562	0.1%
		Wasilla	0	0.0%	1	0.4%	0	0.0%	346,801	0.1%	0	0.0%	1	0.4%	0	0.0%	349,001	0.0%
		<i>South-Central Subtotal</i>	<i>13</i>	<i>5.4%</i>	<i>17</i>	<i>6.7%</i>	<i>21,792,077</i>	<i>5.9%</i>	<i>49,010,139</i>	<i>13.2%</i>	<i>13</i>	<i>5.6%</i>	<i>19</i>	<i>7.9%</i>	<i>52,134,728</i>	<i>5.9%</i>	<i>124,958,887</i>	<i>14.1%</i>
	Southeast	Petersburg	2	0.8%	1	0.4%	3,068,068	0.8%	1,319,391	0.4%	3	1.3%	4	1.7%	10,320,267	1.2%	10,320,267	1.2%
		Yakutat	1	0.4%	1	0.4%	921,242	0.2%	460,621	0.1%	1	0.4%	1	0.4%	2,545,705	0.3%	2,545,705	0.3%
		<i>Southeast Subtotal</i>	<i>3</i>	<i>1.2%</i>	<i>2</i>	<i>0.8%</i>	<i>3,989,310</i>	<i>1.1%</i>	<i>1,780,012</i>	<i>0.5%</i>	<i>4</i>	<i>1.7%</i>	<i>5</i>	<i>2.1%</i>	<i>12,865,972</i>	<i>1.4%</i>	<i>12,865,972</i>	<i>1.4%</i>
	Aleutians	Unalaska/Dutch Harbor	2	0.8%	2	0.8%	1,904,867	0.5%	1,904,867	0.5%	1	0.4%	1	0.4%	2,304,206	0.3%	2,304,206	0.3%
		King Cove	1	0.4%	1	0.4%	927,155	0.2%	211,808	0.1%	1	0.4%	1	0.4%	614,388	0.1%	289,396	0.0%
		St. Paul	0	0.0%	1	0.4%	0	0.0%	5,012,014	1.3%	0	0.0%	1	0.4%	0	0.0%	11,917,290	1.3%
		<i>Aleutians Subtotal</i>	<i>3</i>	<i>1.2%</i>	<i>4</i>	<i>1.6%</i>	<i>2,832,022</i>	<i>0.8%</i>	<i>7,128,689</i>	<i>1.9%</i>	<i>2</i>	<i>0.9%</i>	<i>3</i>	<i>1.3%</i>	<i>2,918,594</i>	<i>0.3%</i>	<i>14,510,892</i>	<i>1.6%</i>
	<i>All Subregions (non-Kodiak)</i>	<i>19</i>	<i>7.9%</i>	<i>23</i>	<i>9.0%</i>	<i>28,613,409</i>	<i>7.7%</i>	<i>57,918,840</i>	<i>15.6%</i>	<i>19</i>	<i>8.2%</i>	<i>27</i>	<i>11.3%</i>	<i>67,919,294</i>	<i>7.6%</i>	<i>152,335,751</i>	<i>17.1%</i>	
	Kodiak	Kodiak	20	8.3%	31	12.2%	31,448,272	8.5%	37,124,258	10.0%	19	8.2%	30	12.6%	77,790,013	8.8%	92,554,540	10.4%
Alaska Total		39	16.2%	54	21.2%	60,061,681	16.1%	95,043,098	25.5%	38	16.5%	57	23.8%	145,709,307	16.4%	244,890,291	27.6%	
Washington	Washington Total	158	65.6%	165	64.7%	257,800,213	69.3%	233,059,002	62.6%	149	64.5%	149	62.3%	601,502,598	67.7%	540,824,091	60.9%	
Oregon	Oregon Total	35	14.5%	23	9.0%	44,095,159	11.9%	27,677,958	7.4%	37	16.0%	21	8.8%	117,211,725	13.2%	63,542,521	7.2%	
Other U.S.	Other U.S. Total	9	3.7%	13	5.1%	10,097,982	2.7%	16,274,977	4.4%	7	3.0%	12	5.0%	24,064,015	2.7%	39,076,276	4.4%	
All States	All States Total	241	100.0%	255	100.0%	372,055,035	100.0%	372,055,035	100.0%	231	100.0%	239	100.0%	888,487,645	100.0%	888,333,179	100.0%	

Note: Not all percentages add up due to rounding introduced in computing pre- and post-rationalization averages.
 Source: National Marine Fisheries Service Alaska Regional Office 2008, 2010.

in Bering Sea snow crab fishery remained constant (149), while the amount of quota share units held decreased (from 67.7 percent to 60.9 percent of the total quota units in the fishery). For Oregon and for states other than Alaska, Washington, and Oregon, the same patterns described for the Bristol Bay red king crab fishery also apply to the Bering Sea snow crab fishery.

As described in the summary community discussions below, the pattern of catcher vessel owner quota distribution by community for rationalized crab species other than Bristol Bay red king crab and Bering Sea snow crab is somewhat more complex, but at the state level, a clear pattern emerges. For Alaska as a whole, for all rationalized crab fisheries, there has been an increase in the number of unique holders of catcher vessel owner quota and an increase in the number of quota shares held from the time of program implementation (initial allocations) to the 2010/2011 allocations (as shown in Table A1-9 in Attachment 1).

For Washington as a whole, there has been variability by individual fishery in terms of increases or decreases in the number of unique quota holders in rationalized crab fisheries other than the Bristol Bay red king crab and Bering Sea snow crab, but for each of these fisheries a decrease has occurred in the number of quota units held by Washington residents from initial allocation to 2010/2011. For Oregon as a whole, for all rationalized fisheries other than Bristol Bay red king crab and Bering Sea snow crab, the number of unique quota holders and number of quota units held have declined in the time between initial allocation and 2010/2011, with one exception: the number of quota units held in the EAI golden king crab fishery increased. For states other than Alaska, Washington, and Oregon, there has been an increase in the number of unique quota holders and an increase in the number of quota shares held for the Bering Tanner East, Bering Tanner West, and St. Matthew blue king crab fisheries; for the Pribilof blue and red king crab fishery, the number of unique quota holders remained the same, but the number of quota share units held increased. For the other fisheries under the rationalization program, the EAI golden king crab, WAI golden king crab, and WAI red king crab fisheries, no residents of states other than Alaska, Washington, and Oregon held catcher vessel owner quota at the time of initial allocation, nor do they hold quota as of 2010/2011.

Catcher Vessel Crew Shares Distribution

As shown in Table 1-9, relatively few Alaska communities had residents receive initial allocations for Bristol Bay red king crab catcher vessel crew shares. These include Anchorage, Homer, Kenai, Soldotna, Valdez, and Wasilla in the South-Central region; Petersburg in the Southeast region; Unalaska/Dutch Harbor, King Cove, and Sand Point in the Aleutians region; and Kodiak in its own region. Only two of these communities, Homer and Petersburg, saw an increase in the number of unique catcher vessel crew quota holders in the Bristol Bay red king crab fishery over the course of the first 5 years of the crab rationalization program, going from five to six holders and one to two holders, respectively. By the time of the 2010/2011 allocation process, several of these communities saw a decline in unique quota holders. Anchorage had nine unique holders of quota at the time of the initial allocation, but only four by the time of the 2010/2011 allocation. Kenai had one unique quota holder at the time of initial allocation, but none in 2010/2011. Valdez had one unique quota holder at initial allocation, but none in 2010/2011. King Cove had four unique quota holders at initial allocation, but two unique quota holders in 2010/2011. Kodiak had 20 unique quota holders in the Bristol Bay red king crab fishery at the time of initial allocation, but 15 in 2010/2011. Additionally, while not receiving

Table 1-9. CVC Shares by Community, Bristol Bay Red and Bering Sea Snow, Initial Allocation and 2010/11 Distribution

State	Subarea	Community	Bristol Bay Red								Bering Sea Snow							
			Total Number of Unique Holders				Total Number of Quota Units				Total Number of Unique Holders				Total Number of Quota Units			
			Initial		2010–2011		Initial		2010–2011		Initial		2010–2011		Initial		2010–2011	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alaska	South-Central	Anchorage	9	5.1%	4	2.9%	527,839	4.6%	334,484	2.9%	7	4.6%	4	3.3%	1,015,704	3.6%	1,027,702	3.6%
		Cordova	0	0.0%	1	0.7%	0	0.0%	58,658	0.5%	0	0.0%	1	0.8%	0	0.0%	226,550	0.8%
		Homer	5	2.8%	6	4.4%	368,637	3.2%	663,016	5.7%	6	3.9%	6	4.9%	1,155,042	4.1%	1,635,952	5.8%
		Kenai	1	0.6%	0	0.0%	37,403	0.3%	0	0.0%	1	0.7%	0	0.0%	136,608	0.5%	0	0.0%
		Soldotna	1	0.6%	1	0.7%	45,874	0.4%	56,995	0.5%	1	0.7%	1	0.8%	183,536	0.6%	163,147	0.6%
		Valdez	1	0.6%	0	0.0%	27,581	0.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		Wasilla	1	0.6%	1	0.7%	54,984	0.5%	54,984	0.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		<i>South-Central Subtotal</i>	<i>18</i>	<i>10.2%</i>	<i>13</i>	<i>9.5%</i>	<i>1,062,318</i>	<i>9.2%</i>	<i>1,168,137</i>	<i>10.1%</i>	<i>15</i>	<i>9.9%</i>	<i>12</i>	<i>9.8%</i>	<i>2,490,890</i>	<i>8.8%</i>	<i>3,053,351</i>	<i>10.7%</i>
	Southeast	Petersburg	1	0.6%	2	1.5%	51,340	0.4%	109,509	0.9%	1	0.7%	2	1.6%	249,242	0.9%	456,676	1.6%
		<i>Southeast Subtotal</i>	<i>1</i>	<i>0.6%</i>	<i>2</i>	<i>1.5%</i>	<i>51,340</i>	<i>0.4%</i>	<i>109,509</i>	<i>0.9%</i>	<i>1</i>	<i>0.7%</i>	<i>2</i>	<i>1.6%</i>	<i>249,242</i>	<i>0.9%</i>	<i>456,676</i>	<i>1.6%</i>
	Aleutians	Unalaska/Dutch Harbor	1	0.6%	1	0.7%	57,493	0.5%	57,493	0.5%	1	0.7%	1	0.8%	104,355	0.4%	104,355	0.4%
		King Cove	4	2.3%	2	1.5%	182,340	1.6%	90,638	0.8%	3	2.0%	1	0.8%	446,113	1.6%	125,493	0.4%
		Sand Point	1	0.6%	1	0.7%	36,820	0.3%	36,820	0.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
		<i>Aleutians Subtotal</i>	<i>6</i>	<i>3.4%</i>	<i>4</i>	<i>2.9%</i>	<i>276,653</i>	<i>2.4%</i>	<i>184,951</i>	<i>1.6%</i>	<i>4</i>	<i>2.6%</i>	<i>2</i>	<i>1.6%</i>	<i>550,468</i>	<i>1.9%</i>	<i>229,848</i>	<i>0.8%</i>
	<i>All Subregions (non-Kodiak)</i>	<i>25</i>	<i>14.1%</i>	<i>19</i>	<i>13.9%</i>	<i>1,390,311</i>	<i>12.0%</i>	<i>1,462,597</i>	<i>12.6%</i>	<i>20</i>	<i>13.2%</i>	<i>16</i>	<i>13.0%</i>	<i>3,290,600</i>	<i>11.6%</i>	<i>3,739,875</i>	<i>13.2%</i>	
	Kodiak	Kodiak	20	11.3%	15	10.9%	1,023,164	8.8%	1,154,221	10.0%	17	11.2%	12	9.8%	2,970,849	10.4%	2,366,087	8.3%
	Alaska Total		45	25.4%	34	24.8%	2,413,475	20.8%	2,616,818	22.6%	37	24.3%	28	22.8%	6,261,449	22.0%	6,105,962	21.5%
Washington	Washington Total	105	59.3%	80	58.4%	7,312,710	63.2%	7,149,104	61.7%	89	58.6%	71	57.7%	17,948,497	63.1%	17,754,184	62.4%	
Oregon	Oregon Total	14	7.9%	11	8.0%	907,218	7.8%	879,304	7.6%	13	8.6%	10	8.1%	2,085,701	7.3%	2,263,192	8.0%	
Other U.S.	Other U.S. Total	13	7.3%	12	8.8%	945,201	8.2%	933,378	8.1%	13	8.6%	14	11.4%	2,138,014	7.5%	2,310,323	8.1%	
All States	All States Total	177	100.0%	137	100.0%	11,578,604	100.0%	11,578,604	100.0%	152	100.0%	123	100.0%	28,433,661	100.0%	28,433,661	100.0%	

Notes: Not all percentages add up due to rounding introduced in computing pre- and post-rationalization averages.

CVC shares are not currently (2010) subject to regional landing requirements, nor have they been at any time during the BSAI crab rationalization program to date, but regionalization designations applied during the initial allocation process are still associated with these shares.

Source: National Marine Fisheries Service Alaska Regional Office 2008, 2010.

any initial allocation, residents of Cordova in the South-Central region held at least some catcher vessel crew quota by the time of the 2010/2011 quota allocation process.

Within the Bristol Bay red king crab fishery, declines in the number of catcher vessel quota units over the time period between initial allocation and 2010/2011 were seen in Anchorage, King Cove, Kenai, and Valdez, with the latter two communities having no catcher vessel crew quota units by 2010/2011. Wasilla, Unalaska/Dutch Harbor, and Sand Point retained the same number of quota units over this time period, while there were gains in catcher vessel crew quota units by Homer, Soldotna, Petersburg, Kodiak, and Cordova residents over this same time period.

In sum, Alaska communities as a group, between initial allocation and 2010/2011, the number of unique catcher vessel owner quota holders in the Bristol Bay red king crab declined from 45 to 34. Alaska communities as a group, however, also went from owning 20.8 percent to 22.6 percent of the catcher vessel crew quota units in the Bristol Bay red king crab fishery.

The number of Washington unique holders of catcher vessel crew quota decreased for the Bristol Bay red king crab fishery (from 105 to 80) between initial allocation and 2010/2011, with the percentage of crew share quota units held also decreasing (from 63.2 percent to 61.7 percent) over this same period. In the case of Oregon, the number of unique holders of catcher vessel crew shares decreased (from 14 to 11) in the Bristol Bay red king crab fishery between initial allocation and 2010/2011; the amount of quota units held also decreased (from 7.8 percent to 7.6 percent) over this same time. In the case of states other than Alaska, Washington, or Oregon, the number of unique holders of catcher vessel crew shares in the Bristol Bay red king crab fishery decreased by one (from 13 to 12) between initial allocation and 2010/2011; the amount of quota units declined (from 8.2 percent to 8.1 percent) at this same time.

Also as shown in Table 1-9, relatively few Alaska communities had residents receive initial allocations for Bering Sea snow crab catcher vessel crew shares. These include Anchorage, Homer, Kenai, and Seldovia in the South-Central region; Petersburg in the Southeast region; Unalaska/Dutch Harbor and King Cove in the Aleutians region; and Kodiak in its own region. By the time of the 2010/2011 allocation process, half of these communities either maintained (Homer, Soldotna, and Unalaska/Dutch Harbor) or increased (Petersburg) their number of unique quota holders. Anchorage, which had seven unique holders of quota at the time of the initial allocation, had four by the time of the 2010/2011 allocation; Kenai, which had one unique holder of quota at the time of the initial allocation, had none by the time of the 2010/2011 allocation; King Cove, which had three unique holders of quota at the time of the initial allocation, had one by the time of the 2010/2011 allocation; and Kodiak, which had 17 unique holders of quota at the time of the initial allocation, had 12 by the time of the 2010/2011 allocation. Additionally, while not receiving any initial allocation, residents of Cordova in the South-Central region held at least some catcher vessel crew quota by the time of the 2010/2011 quota allocation process.

Within the Bering Sea snow crab fishery, declines in the number of catcher vessel quota units over the time period between initial allocation and 2010/2011 were seen in Soldotna, King Cove, Kodiak, and Kenai, with the latter community having no catcher vessel crew quota units by 2010/2011. Unalaska/Dutch Harbor retained the same number of quota units over this time period, while there were gains in catcher vessel crew quota units by Anchorage, Cordova, Homer, and Petersburg residents over this same time period.

In sum, Alaska communities as a group, between initial allocation and 2010/2011, decreased from 37 to 28 unique catcher vessel owner quota holders in the Bering Sea snow crab fishery. Alaska communities as a group also went from owning 22.0 percent to 21.5 percent of the catcher vessel crew quota units in the Bering Sea snow crab fishery over this same time period.

The number of Washington unique holders of catcher vessel crew quota decreased (from 89 to 71) for the Bering Sea snow crab fishery between initial allocation and 2010/2011; the amount of quota units held in the fishery also decreased (from 63.1 to 62.4 percent of all quota units) over this same period. In the case of Oregon, the number of unique holders of catcher vessel crew shares decreased in the Bering Sea snow crab fishery (from 13 to 10) between initial allocation and 2010/2011; the amount of quota units held, however, increased (from 7.3 percent to 8.0 percent of all quota units) over this same time. In the case of states other than Alaska, Washington, or Oregon, the number of unique holders of catcher vessel crew shares increased in the Bering Sea snow crab fishery between initial allocation and 2010/2011; the amount of quota units held also increased over this same time period.

As described in the summary community discussions below, the pattern of catcher vessel crew quota distribution by community for rationalized crab species other than Bristol Bay red king crab and Bering Sea snow crab from initial allocation to 2010/2011 is somewhat different from that for either of these two species. For Alaska as a whole, there have been decreases in unique quota holders and the number of quota share units held in the Bering Tanner East, Bering Tanner West, and Pribilof blue and red king crab fisheries, while in the St. Matthew blue king crab fishery there have been increases in both the number of unique holders of catcher vessel crew quota and the number of quota share units held. In the EAI golden king crab fishery, the number of unique quota holders and the number of quota share units held have been unchanged. No Alaska residents held shares in the WAI golden king crab or WAI red king crab fisheries, either at the time of initial allocation or as of 2010/2011.

Among the rationalized crab fisheries other than Bristol Bay red king crab and Bering Sea snow crab, for Washington as a whole, over the period from initial allocation to 2010/2011, there have been decreases in the number of unique catcher vessel crew quota holders and the amount of quota share units held in the EAI golden king crab, Bering Tanner East, Bering Tanner West, and St. Matthew blue king crab fisheries. The number of unique quota holders and number of quota share units have remained unchanged in the WAI golden king crab and WAI red king crab fisheries, while the number of unique holders and the number of quota share units held in the Pribilof blue and red king crab fisheries have increased over this same time.

For Oregon as a whole, the number of unique catcher vessel crew quota holders has increased in the WAI golden king crab fishery; remained the same in the EAI golden king crab, St. Matthew blue king crab, and WAI red king crab fisheries; and decreased in the Bering Tanner East, Bering Tanner West, and Pribilof blue and red king crab fisheries between initial allocation and 2010/2011. In terms of quota share units held, there have been increases in all of these fisheries over this same time, except for WAI red king crab, which has remained the same, and Pribilof blue and red king crab, which has decreased.

Among the rationalized crab fisheries other than Bristol Bay red king crab and Bering Sea snow crab, for states other than Alaska, Washington, and Oregon, the pattern of distribution of catcher vessel crew quota is quite different. Between initial allocation and 2010/2011, decreases in the

number of unique quota holders and number of quota share units held are seen in the EAI golden king crab and WAI golden king crab fisheries, with no quota share units in either fishery held by residents of these states in 2010/2011, Increases in both the number of unique holders and the number of quota share units held were seen over this same time period in the Bering Tanner East, Bering Tanner West, St. Matthew blue king crab, and Pribilof blue and red king crab fisheries. No residents of these states received catcher vessel crew share initial allocations in the Western Aleutian red fishery, nor were any shares in this fishery held by residents of these states by 2010/2011.

Catcher Processor Owner Shares Distribution

As shown in Table 1-10, within Alaska, initial allocation of catcher processor owner shares was limited to one unique quota holder with an Anchorage address in each of the Bristol Bay red king crab and Bering Sea snow crab fisheries, with the amount of quota share units held being 4.4 and 3.9 percent of the total quota share units for each of these fisheries, respectively. All other catcher processor owner shares in these two fisheries were held by residents of Washington. By the time of the 2010/2011 annual quota allocation process, however, this picture had changed substantially. While quota continues to be concentrated in exclusively Alaska and Washington, Alaska residents had markedly increased their holdings. While the number of Anchorage resident unique quota holders only increased by one (from one to two) in each of the fisheries, the amount of quota share units held increased to 11.4 percent in the Bristol Bay red king crab fishery and 18.2 percent in the Bering Sea snow crab fishery. Additionally, one unique quota holder in St. Paul was added to each of these fisheries, holding 10.6 and 9.7 percent, respectively of the Bristol Bay red king crab and Bering Sea snow crab fisheries.. Overall, Alaska increased catcher processor owner quota units from 4.4 percent to 22.1 percent in the Bristol Bay red king crab fishery and from 3.9 percent to 27.9 percent in the Bering Sea snow crab fishery over the first 5 years of the BSAI crab rationalization program (with accompanying declines in Washington holdings).

Alaska holdings of other rationalized species catcher processor owner shares were limited to one unique Anchorage quota holder (holding 3.5 percent of the total quota shares) for each of Bering Tanner East and Bering Tanner West fisheries. By the time of the 2010/2011 annual quota allocation process, however, this picture had changed substantially. While quota continues to be concentrated in exclusively Alaska and Washington, Alaska residents had markedly increased their holding, with Anchorage residents accounting for two unique holders and 17.0 percent of total quota units in each of these fisheries. Additionally, one unique quota holder in St. Paul was added to each fishery, with 10.5 percent of each species total catcher processor owner quota units, respectively. Overall, Alaska increased catcher processor owner quota units from 3.5 percent to 27.5 percent in each of these fisheries over the first 5 years of the BSAI crab rationalization program (with an accompanying decline in Washington holdings). Washington residents accounted for 100 percent of the initial allocations of EAI golden king crab, WAI golden king crab, Pribilof blue and red king crab, St. Matthew blue king crab, and WAI red king crab catcher processor owner shares and, as of the 2010/2011 allocation process, continue to hold 100 percent of the catcher processor owner shares for each of these species.

Catcher Processor Crew Shares Distribution

As shown in Table 1-11, within Alaska, initial allocation of catcher processor crew shares in the either Bristol Bay red king crab fishery or the Bering Sea snow crab fishery were limited to two unique quota holders with Kodiak addresses in the Bristol Bay red king crab fishery, who together held 0.3 percent of the total catcher processor crew quota units in the fishery. As of the 2010/2011 quota allocation process, these figures were unchanged. Other initial allocation catcher processor crew share recipients in the Bristol Bay red king crab fishery included four unique quota holders in Washington (together holding 50.0 percent of the total catcher processor crew quota units) and two unique quota holders in states other than Alaska, Washington, and Oregon (together holding 49.7 percent of the total catcher processor crew quota units). As of the 2010/2011 quota allocation process, these figures were also unchanged.

Alaska holdings of other rationalized species catcher processor crew shares were limited to one unique Anchorage quota holder (holding 5.2 percent of the total quota units) for each of Bering Tanner East and Bering Tanner West fisheries. By the time of the 2010/2011 annual quota allocation process, however, these quota units were no longer held by individuals with Alaska addresses. A total of 11 unique quota holders with Washington addresses received initial allocations in the Bering Tanner East and Bering Tanner West fisheries (76.4 percent of the total quota units in each fishery), with the number of unique quota holders increasing by one (and the percentages of total quota units held increasing to 81.6 percent) by the time of the 2010/2011 quota allocation processing (meaning the former Alaska quota shares had gone to Washington). Three other unique quota holders of Bering Tanner East and Bering Tanner West fisheries from states other than Alaska, Washington, and Oregon were initially allocated 18.4 percent of the total catcher processor crew quota units for these fisheries, and these numbers were unchanged by the time of the 2010/2011 allocation process. The only other rationalized crab fisheries for which catcher processor crew shares were issued were the WAI golden king crab and the WAI red king crab fisheries. One unique quota holder from Washington received an initial allocation in the WAI golden king crab fishery (consisting of 98.2 percent of the total catcher processor quota units in this fishery), numbers that were unchanged at the time of the 2010/2011 allocation process. One unique quota holder from a state other than Alaska, Washington, or Oregon also received an initial allocation in the WAI golden king crab fishery (consisting of 1.8 percent of the total catcher processor quota units in this fishery), but by the time of the 2010/2011 allocation process, these shares were held by one unique quota holder with an Oregon address, the only catcher processor crew quota holdings by anyone in that state. There was one unique quota holder with a Washington address for the WAI red king crab fishery (with 100 percent of the total catcher processor share units held) at the time of initial allocation and this situation had not changed by 2010/2011. No catcher processor crew shares were initially (or subsequently) allocated for the EAI golden king crab, Pribilof blue and red king crab, or St. Matthew blue king crab fisheries.

Processing Quota Shares Distribution

Social impacts related to changes in the distribution of processing effort linked to the distribution of processor quota through the Individual Processor Quota (IPQ) allocation process have been isolated to a few communities.

Table 1-10. CPO Shares by Community, Bristol Bay Red and Bering Sea Snow, Initial Allocation and 2010/11 Distribution

State	Community	Bristol Bay Red King Crab								Bering Sea Snow Crab							
		Number of Unique Holders				Number of Quota Units				Number of Unique Holders				Number of Quota Units			
		Initial		2010–2011		Initial		2010–2011		Initial		2010–2011		Initial		2010–2011	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alaska	Anchorage	1	7.1%	2	18.2%	777,429	4.4%	2,022,487	11.4%	1	5.6%	2	14.3%	3,494,652	3.9%	16,171,435	18.2%
	St. Paul	0	0.0%	1	9.1%	0	0.0%	1,883,177	10.6%	0	0.0%	1	7.1%	0	0.0%	8,593,014	9.7%
<i>Alaska Total</i>		<i>1</i>	<i>7.1%</i>	<i>3</i>	<i>27.3%</i>	<i>777,429</i>	<i>4.4%</i>	<i>3,905,664</i>	<i>22.1%</i>	<i>1</i>	<i>5.6%</i>	<i>3</i>	<i>21.4%</i>	<i>3,494,652</i>	<i>3.9%</i>	<i>24,764,449</i>	<i>27.9%</i>
<i>Washington Total</i>		<i>13</i>	<i>92.9%</i>	<i>8</i>	<i>72.7%</i>	<i>16,921,219</i>	<i>95.6%</i>	<i>13,792,984</i>	<i>77.9%</i>	<i>17</i>	<i>94.4%</i>	<i>11</i>	<i>78.6%</i>	<i>85,185,819</i>	<i>96.1%</i>	<i>63,916,022</i>	<i>72.1%</i>
All States Total		14	100.0%	11	100.0%	17,698,648	100.0%	17,698,648	100.0%	18	100.0%	14	100.0%	88,680,471	100.0%	88,680,471	100.0%

Note: Not all percentages add up due to rounding introduced in computing pre- and post-rationalization averages.
 Source: National Marine Fisheries Service Alaska Regional Office 2008, 2010.

Table 1-11. CPC Shares by Community, Bristol Bay Red and Bering Sea Snow, Initial Allocation and 2010/11 Distribution

State	Community	Bristol Bay Red King Crab								Bering Sea Snow Crab							
		Number of Unique Holders				Number of Quota Units				Number of Unique Holders				Number of Quota Units			
		Initial		2010–2011		Initial		2010–2011		Initial		2010–2011		Initial		2010–2011	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Alaska	Kodiak	2	25.0%	2	25.0%	1,184	0.3%	1,184	0.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
<i>Alaska Total</i>		<i>2</i>	<i>25.0%</i>	<i>2</i>	<i>25.0%</i>	<i>1,184</i>	<i>0.3%</i>	<i>1,184</i>	<i>0.3%</i>	<i>0</i>	<i>0.0%</i>	<i>0</i>	<i>0.0%</i>	<i>0</i>	<i>0.0%</i>	<i>0</i>	<i>0.0%</i>
<i>Washington Total</i>		<i>4</i>	<i>50.0%</i>	<i>4</i>	<i>50.0%</i>	<i>210,926</i>	<i>50.0%</i>	<i>210,926</i>	<i>50.0%</i>	<i>6</i>	<i>75.0%</i>	<i>6</i>	<i>85.7%</i>	<i>1,230,257</i>	<i>69.3%</i>	<i>1,540,610</i>	<i>86.8%</i>
<i>Other U.S. Total</i>		<i>2</i>	<i>25.0%</i>	<i>2</i>	<i>25.0%</i>	<i>209,621</i>	<i>49.7%</i>	<i>209,621</i>	<i>49.7%</i>	<i>2</i>	<i>25.0%</i>	<i>1</i>	<i>14.3%</i>	<i>543,814</i>	<i>30.7%</i>	<i>233,461</i>	<i>13.2%</i>
All States Total		8	100.0%	8	100.0%	421,731	100.0%	421,731	100.0%	8	100.0%	7	100.0%	1,774,071	100.0%	1,774,071	100.0%

Note: Not all percentages add up due to rounding introduced in computing pre- and post-rationalization averages.
 Source: National Marine Fisheries Service Alaska Regional Office 2008, 2010.

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- 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—had, at the time of the crab rationalization 3-year program review, served to bring crab processing local public revenue benefits back to St. George (via St. Paul on an annual agreement basis), but not actual processing itself. Importantly, however, no long-term revenue agreement was then in place for the City of St. George. As the crab rationalization 3-year program review was going final, however, Aleutian Pribilof Islands Community Development Association (APICDA), the Community Development Quota (CDQ) group that represents St. George (among other communities) acquired the processor quota shares that were associated with one processing company’s processing history in that community and had entered into a confidential agreement regarding the processing history of the other firm that had obtained an initial allocation of processor shares associated with St. George, as discussed in the community summary in Section 1.3.8.
 - 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, at the time of the crab rationalization 3-year program review, these shares had been leased to Harbor Crown Seafoods, which 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. As noted in the Unalaska community profile, however, Harbor Crown Seafoods has subsequently gone out of business (for reasons, according to a former owner, unrelated to the crab rationalization program). According to the owner of the processor shares in question, these shares continue to be processed in Unalaska/Dutch Harbor, as they have every year since the beginning of the program, but they are now (2010) being custom processed at one of the long-established crab processors in the community.¹⁵

¹⁵ While these (or other) processor shares may someday be processed at the business successor to Harbor Crown Seafoods, the entity that has purchased the Harbor Crown operation is affiliated with a Community Development Quota (CDQ) group and thus presumably has access to CDQ quota (that does not require quota matching). As a result, while these divested Royal Aleutian processor quota shares helped to foster a new entrant to the processing market in Unalaska/Dutch Harbor in the form of Harbor Crown Seafoods by making it easier to compete against

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. An NPFMC amendment on custom processing around the time of the crab rationalization 3-year program review, however, has allowed an agreement to be reached that retained a stable level for processor quota in King Cove. In this case, King Cove-based processor shares of Bristol Bay red king crab were acquired by Aleutia. While this acquisition was not specifically made under the crab rationalization program right of first refusal process, the existence of that process clearly influenced the acquisition and those shares have continued to be processed in the community in the years since. In the case of Unalaska, the species at issue were EAI golden king crab and WAI golden king crab. These shares were acquired by the 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). According to APICDA staff, these shares were processed in Adak in 2008/2009. This represents the only known case of processor shares moving between communities having gone through the right of first refusal process following the implementation of the BSAI crab rationalization program.¹⁶ More recently, however, this quota has been processed (custom processed) again in Unalaska, as the processing plant in Adak did not operate in 2009/2010. As a result of the Adak plant closure, all quota shares of WAI golden king crab held by either APICDA or Axtam, the Atka Native village corporation (which together account for approximately 87 percent of all shares, according to APICDA staff), have been custom processed in Unalaska, along with the EAI golden king crab quota that originated in Unalaska. While processing of this quota may occur in Atka in the future, there are logistical challenges to doing so, given that typically the WAI golden quota is essentially taken by one vessel with sometimes 2 or 3 weeks between deliveries, creating difficult start-up and shut-down conditions, especially for a small plant.

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, St. Paul, King Cove, and Kodiak) or those incorporated by reference (Sand Point, Adak, and St. George [EDAW 2008], as well as Akutan [NPFMC 2008, Appendix A]). 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 discussed in Section 1.5 below. 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

established processors for crab market share under the rationalized system, they would be relatively less important to doing so for a CDQ-affiliated processor.

¹⁶ In this case, the holder of the right of first refusal agreed to waive their right to purchase the processor quota shares in question. There are no known cases of holders of the right of first refusal exercising their right to purchase quota shares specifically following the formal procedures established under the rationalization program.

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 1998–2010 dataset, the number of Unalaska-owned vessels participating in the Bristol Bay red king crab fishery declined from two to zero 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, one locally owned vessel typically fished per year the years leading up to rationalization, with the individual vessels changing several times, 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 1998–2010 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 are still (2010) Unalaska owned and 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 BSAI crab fisheries (not all of which have been open in recent years¹⁷), two individuals listed as Unalaska residents qualified for initial catcher vessel owner quota share allocations in each of the Bristol Bay red king crab, the Bering Tanner East, the Bering Tanner West, and the Pribilof blue and red king crab fisheries. One of these two individuals also qualified for an initial catcher vessel owner quota share allocation in each of the Bering Sea snow crab and the St. Matthew blue king crab fisheries. The number and percentage of overall quota shares held by these two individuals were the same for the 2010/2011 season IFQ allocation as they were for the initial allocation.

¹⁷ The Pribilof blue and red king crab fishery and the WAI red king crab fishery have been closed for a number of years, including the 5 years post-implementation of rationalization, and are not expected to reopen in the near future. The St. Matthew blue king crab fishery, had also been closed for a number of years post-implementation, but recently opened for the 2009–2010 season with a total allowable catch (TAC) of approximately 1.17 million pounds (with a 90/10 percent split between IFQ and CDQ, respectively). The fishery will also be open for the 2010–2011 season with a TAC of 1.6 million pounds.

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- **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 two individuals listed as Unalaska residents in the database qualified for initial allocation of catcher vessel crew quota shares. One of these two individuals is also one of the two individuals in Unalaska who received catcher vessel owner shares under the program. This individual holds catcher vessel crew shares in the Bristol Bay red king crab, the Bering Sea snow crab, the Bering Tanner East, the Bering Tanner West, and the Pribilof blue and red king crab fisheries. This individual still, as of the 2010/2011 allocation, holds catcher vessel quota shares equivalent to those he received under the initial program allocation. The second individual received initial allocations in the Bering Tanner East and Bering Tanner West fisheries under an Unalaska address, but received initial allocations for the Bristol Bay red king crab, the Bering Sea snow crab, and the St. Matthew blue king crab fisheries under a Seattle address. All of these quota shares are listed as owned by this same individual but under an Unalaska address for the 2005/2006, 2006/2007, and 2007/2008 seasons. After the 2007/2008 season, no catcher vessel crew quota shares are shown in the dataset under this individual’s name nor do any additional catcher vessel crew shares show up under any other individual’s name associated with an Unalaska address.

No other catcher vessel crew quota shares were received by local residents for any other active BSAI crab fisheries. According to multiple interviews with knowledgeable community residents in 2004 and 2008, no full-time Unalaska residents had been known to crew on BSAI crab vessels in recent years, either before or after the implementation of rationalization. Interviews in 2010 would suggest, however, that at least one and perhaps a few more individuals have crewed on BSAI crab boats more recently, but apparently the number remains small. 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 social impact issue in Unalaska/Dutch Harbor.

Processing

- Unalaska is home to several shore processors of BSAI crab. At the time of the crab rationalization 3-year program review (2008), the plants then currently operating in Unalaska could usefully be grouped into three different categories: the three large multispecies plants (UniSea, Alyeska, and Westward), a mobile processor operator (Icicle), and two smaller specialty processors (Prime Alaska and Harbor Crown). The large multispecies plants were all American Fisheries Act (AFA)-qualified groundfish plants, and all processed a wide range of species. Another plant that processed a significant amount of BSAI crab prior to rationalization (Royal Aleutian Seafoods) had been sold and its quota consolidated with another processor following the implementation of crab rationalization, well before the time of the 3-year program review. Since the crab rationalization 3-year program review, however, both plants characterized as smaller specialty processors ceased operations in 2009, with only the Harbor Crown facilities likely to reopen in the future. In general, in most years, Unalaska plants processed somewhat less than half of all Bristol Bay red king crab prior to rationalization and somewhat more than half in 3 of the years 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 2005 and subsequent processing levels, as a percentage of total processing, have tended to decline somewhat since that time, although there is substantial year-to-year variability. 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, and the ramping up of the Harbor Crown plant operations at this same time likely provided at least some offsetting job opportunities. With the subsequent closure of Harbor Crown, overall processing employment in the community has likely fallen (especially when combined with trends of less labor intensive methods of processing at local plants in general), but it is also likely that the planned reopening of that facility under new ownership in 2010/2011 will provide some new opportunities. Unlike the case with Royal Aleutian, the closure of Harbor Crown Seafoods, according to a former owner, was not crab rationalization related. 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, but to date this ownership movement has been at least partially offset by the fact that this quota has largely still been processed in Unalaska under custom processing agreements.

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 relatively stable among existing businesses, although some additional downturn in employment has been seen in some businesses during the 2008–2010 time period.

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 have 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 the time of the crab rationalization 3-year program review, at least one business 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). More recently, the hydraulics business that had experienced steady gains has reported that revenues have leveled off if not declined, due to multiple factors. Among welding and ship repair businesses, as of the 3-year program review, revenues had generally increased over time, as had employment at all but one entity, but a number of these gains had come from diversifying the businesses as opposed to growth within existing types of offerings. More recently, there has been some decline in employment in this sector. Among the three 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 35 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, were relatively flat from 2006 through 2007, and increased again in 2008. In 2009 and 2010, however, revenues declined to levels seen in the 2003–2004 timeframe, but these declines were driven by the opening of a private sector marine facility in the community that directly competes with municipal harbor facilities. 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 1998–2010 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 CDQ group, which has ownership interest in two vessels¹⁸ 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.

¹⁸ The *Farwest Leader* and the *Barbara J* are both 50 percent owned by APICDA and 50 percent owned by Trident Seafoods.

Interviews conducted for the crab rationalization 3-year program review (2008) 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.¹⁹ No Akutan residents qualified for an initial allocation of 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 2008 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 (2008) interviews for the crab rationalization 3-year program review 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 steadily since 2004, ultimately exceeding \$1 million in 2008. Following a sharp decrease from 2002 to 2003 (prior to rationalization) total operating revenues have increased on an annual basis, reaching a high point of over \$4.5 million in 2008.

1.3.3 King Cove

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2010 dataset, only one vessel owned by King Cove residents participated in the Bristol Bay red king crab fishery in the year

¹⁹ For more discussion of crew compensation issues, see Section 1.4.

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 (although up to four locally owned vessels fished in Bristol Bay red king crab fishery at least 1 year and up to three vessels fished in the Bering Sea snow crab fisheries at least one year [1998 through 2003]). With the exception of one vessel participating in the Bering Tanner East fishery in 2007/2008, no locally owned vessels participated in the Bering Tanner East or Bering Tanner West fisheries in the years covered by the BSAI crab fishery 1998–2010 dataset. One locally owned vessel remained active in the Bristol Bay red king crab fishery through the 2008/2009 season, but no locally owned vessels have been active in the rationalized BSAI fisheries since, both according to the BSAI crab fishery 1998–2010 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 have now 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 open rationalized crab fisheries. According to the dataset, initial allocation quota share in King Cove was received for the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, and Bering Tanner West fisheries (with each held by one person). Also according to the quota share dataset, for the 2010/2011 season, the number of unique local catcher vessel owner holders has remained the same, but the number of quota share units has decreased substantially in each of these fisheries, and local interviews would indicate that in at least some of these cases, different individuals own these quota units than was the case at the time of initial allocations. (Among the currently closed BSAI rationalized crab fisheries, two King Cove residents also hold catcher vessel owner quota shares in the Pribilof blue and red king crab fishery and the number of units held has not changed since initial allocation.)

- **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 crab rationalization program review effort. Essentially, 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. However, 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. This same situation was confirmed during field interviews in 2010 (and further crew opportunities were lost with the exit of the last remaining King Cove vessel from active participation in the rationalized BSAI crab fisheries following the 2008/2009 season). 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 (i.e., 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 community²⁰).

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 catcher vessel 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 catcher vessel crew shares in the Bristol Bay red king crab fishery, while initial allocations were made to three individuals in each of the Bering Sea snow, Bering Tanner East, and Bering Tanner West crab fisheries; two individuals received initial allocations of catcher vessel crew shares in the St. Matthew blue blue king crab fishery. (Among the currently closed BSAI rationalized crab fisheries, two King Cove residents were each initially allocated catcher vessel crew quota shares in the Pribilof blue and red king crab fishery.) As of the 2010/2011 IFQ allocation process, the number of unique King Cove resident crew quota shareholders had declined in every fishery and the number of quota share units held by King Cove residents has declined substantially in every fishery compared to initial allocation levels.

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. Additionally, it is assumed that the plant benefited at least to some degree by a consolidation of processor history within the Aleutians East Borough (AEB) (and within the same firm) that was originally associated with processing activity during the qualification period that took place in False Pass and/or Port Moller.

²⁰ For more discussion of crew compensation issues, see Section 1.4.

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-based (AEB-based) entity, although these shares have continued to be processed in King Cove under a series of annual custom processing agreements.

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 the crab rationalization 3-year project review with a variety of support service providers suggested that there was a commonly held perception that there had 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, was seen as resulting in both fewer vessels to service and fewer people coming into King Cove from outside of the community (and spending money in the community). This situation was reported to be unchanged in 2010. 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 pot hauling business reports that while pot hauling revenue declined sharply following rationalization, increases in revenue from a boat watch service he also owns 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 1998–2010 dataset, in the years leading up to the implementation of BSAI crab rationalization, an annual average of 34.0 and 26.9 vessels owned by Kodiak residents participated in the Bristol Bay red king crab and Bering Sea snow crab fisheries, respectively. In the 5 years post-rationalization for which data are available, these annual averages dropped to 10.4 for the Bristol Bay red king crab fishery and 9.6 for the Bering Sea snow crab fishery, decreases of 69 percent and 64 percent, respectively. In absolute numbers, there were fewer Kodiak-owned vessels in both fisheries in the fifth year of rationalization (2009/2010) than there were in the first year (2005/2006). (Bristol Bay red king crab Kodiak-owned vessels dropped from 13 to 9 and Bering Sea snow crab vessels dropped from 10 to 9.) Post-rationalization, on average, Kodiak accounted for more than half of all Alaska-owned vessels participating in the Bristol Bay red king crab fishery and for more than half of all Alaska-owned vessels participating in the Bering Sea snow crab fishery, as was the case pre-rationalization. Compared to vessels owned by residents of other communities (both Alaska and non-Alaska), the annual average percentage of the total harvest attributed to Kodiak vessels stayed about the same for the Bristol Bay red king crab fishery (at an average 12.2 percent of total annual harvest both pre- and post-rationalization), but declined slightly for Bering Sea snow crab (from 13.0 percent to 12.2 percent of total average annual harvest pre- and post-rationalization, respectively). Kodiak vessel owners were the only Alaska vessel owners outside of Anchorage to have harvested EAI golden king crab and WAI golden king crab in the years prior to rationalization that are covered by the BSAI crab fishery 1998–2010 dataset, although none have participated in these fisheries in the 5 years post-rationalization. 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 1998–2010 dataset, one Kodiak-owned vessel participated in the Bering Tanner East fishery in the 2009/2010 season (out of three vessels participating from all of Alaska) and four Kodiak-owned vessels participated in the Bering Tanner West fisheries in the 2009/2010 season (out of seven vessels participating from all of Alaska). Of the 55 unique vessels with ownership attributed to Kodiak residents that show up in the 1998–2010 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, 24 of those vessels are shown in the database as still under Kodiak ownership and remaining active in 2009 (the most recent year for which data are available) in commercial fishing (and thus presumably continue to generate at least some level of economic benefit, even if half of these vessels did not participate in the rationalized crab fisheries in 2009).

In terms of initial quota allocations, the unique numbers of Kodiak residents receiving catcher vessel owner allocations in each of the fisheries are as follows: 20 for Bristol Bay red king crab, 19 for Bering Sea snow crab, 1 for EAI golden king crab, 2 for WAI golden king crab, 21 each for Bering Tanner East and Bering Tanner West, 12 for St. Matthew blue king crab, and 3 for WAI red king crab. Among open fisheries, with the exception of the EAI golden king crab and WAI golden king crab fisheries, which remained the same in terms of number of unique quota holders and the number of quota units held, in the 2010/2011 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 2010/2011 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 20 to 31 in the Bristol Bay red king crab fishery; from 19 to 30 in the Bering Sea snow crab fishery; from 21 to 28 in the Bering Tanner East fishery; from 21 to 29 in the Bering Tanner West fishery; and from 12 to 19 in the St. Matthew blue king crab fishery. Comparing 2010/2011 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 8.5 to 10.0 percent of the Bristol Bay red king crab fishery; from 8.8 percent to 10.4 percent of the Bering Sea snow crab fishery; from 10.9 percent to 12.5 percent of the Bering Tanner East fishery; and from 10.9 percent to 12.5 percent of the Bering Tanner West fishery. (Among the BSAI crab fisheries that are currently not open, eight Kodiak vessel owners qualified for initial allocations in the Pribilof blue and red king crab fishery. Between the initial allocation and the 2010/2011 season IFQ allocation process, the number of Kodiak unique quota holders increased to 12, while the percentage of total quota units held declined from 6.0 to 4.0 percent of total quota units held. Because these fisheries are closed, however, no present impacts have occurred.)

- **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 one of 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 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 community²¹).

In terms of catcher vessel crew initial quota allocations, the unique number of Kodiak residents receiving allocations in each of the fisheries is as follows: 20 for Bristol Bay red king crab, 17 for Bering Sea snow crab, 20 for Bering Tanner East, 20 for Bering Tanner West, and 12 for St. Matthew blue king crab. While the number of unique quota holders and percentage of quota units held by Kodiak residents either increased or stayed the same between initial allocation and 2010/2011 in the case of catcher vessel quota, a very different pattern is seen for catcher vessel crew quota.

Between the initial allocation and the 2010/2011 IFQ allocation, the number of unique individuals holding Bristol Bay red king crab quota decreased (from 20 to 15), but the proportion of catcher vessel crew quota units held increased (from 8.8 to 10.0 percent). For Bering Sea snow crab, the number of Kodiak catcher vessel crew quota holders declined (from 17 to 12) as did the percentage of total fishery catcher vessel crew quota held by community residents (from 10.4 to 8.3 percent). For the Bering Tanner East fishery, the number of Kodiak catcher vessel crew quota holders declined (from 20 to 16), as did the number of Bering Tanner West Kodiak catcher vessel crew quota holders; in both fisheries the percentage of total fishery catcher vessel crew quota held by Kodiak residents remained the same (11.6 percent), although the absolute number of share units held declined slightly. For the St. Matthew blue king crab fishery, the number of unique individuals holding catcher vessel crew quota remained the same (9) and the proportion of catcher vessel crew quota units held increased (from 14.0 to 14.4 percent).

(Among the BSAI crab fisheries that are currently not open, four Kodiak residents qualified for initial allocations of catcher vessel crews in the Pribilof blue and red king crab fishery. Between the initial allocation and the 2010/2011 season IFQ allocation process, the number of Kodiak unique quota holders remained the same and the percentage of total quota units held increased [from 7.6 to 9.5 percent]. Because these fisheries are closed, however, no present impacts have occurred.)

Two unique Kodiak residents also received initial allocations of catcher processor crew quota in the Bristol Bay red king crab fishery. As of 2010/2011, the number of quota holders and the number of quota shares held were unchanged from initial allocation figures.

²¹ For more discussion of crew compensation issues, see Section 1.4.

Processing

- According to the BSAI crab fishery 1998–2010 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. Also according to the dataset, post-implementation of BSAI crab rationalization, three or four Kodiak plants have been processing Bristol Bay red king crab and between one and three Kodiak plants have been processing Bering Sea snow crab in any given year, 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.

As presented in the crab rationalization 3-year program review, an updated analysis of the sales information of 12 businesses included in the earlier (Knapp 2006) study showed that 1 business had closed in the meantime (in December 2006) but that among the remaining 11 businesses, sales had increased for 9 of the 11 businesses when comparing the fourth quarter of 2007 (then 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 (then the most recent first quarter) to the first quarter of 2005 (the last first quarter prior to rationalization) showed sales increases for 10 of the 11 remaining businesses. More recently, 8 of the 11 remaining businesses were up in the fourth quarter of 2009 compared to the fourth quarter of 2004; 7 of the 11 businesses were up in the first quarter of 2010 compared to the first quarter of 2005. Drawing conclusions from point-in-time data was noted as challenging in the 3-year review, however, and while overall

there did 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 suggested 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, as noted in the crab rationalization 3-year program review, 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, was noted as dynamic and individual businesses, and individual business owners, even within the same service sector, had adapted to changing circumstances in a number of different ways. This same pattern was seen as holding during interviews for this crab rationalization 5-year review in 2010, with the additional complication of an ongoing national recession that was noted by a number of business owners in Kodiak (and several of the other communities) as having an impact on their customer's decision-making.

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 taxes 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 (the most recent year for which state-compiled data comparable to that provided for other communities are available). Kodiak Island Borough fish tax revenues showed an annual decline from 2002 to 2004 but have shown an annual increase from 2004 through 2010. Kodiak harbor revenues have shown annual increases from 2004 to 2009.

1.3.5 Sand Point

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2010 dataset, patterns of Sand Point vessel participation are generally unchanged from what was reported in the crab rationalization 3-year program review. One vessel (*Vessel Sand Point A*), shown in the dataset and confirmed by interviews as 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 actively participates in other fisheries out of Sand Point. Another vessel (*Vessel Sand Point B*) is shown in the dataset as Sand Point owned and having fished in both the Bristol Bay red king crab and Bering Sea snow crab fisheries in 1998–2000, but as a Seattle owned boat thereafter participating in both fisheries to the present (2010), was identified as owned by a Sand Point resident during interviews. A third vessel (*Vessel Sand Point C*), shown in the dataset as Sand Point owned and having fished in both the Bristol Bay red king crab and Bering Sea snow crab fisheries in 1998, but as a Seattle/Edmonds-owned boat thereafter participating in both fisheries to the present (2010), was identified as owned by a Sand Point resident during interviews. *Vessel Sand Point B* and *Vessel Sand Point C* reportedly have ownership in common (with the owner of one owning a portion of the other as well), and these are the only two vessels still associated with Sand Point ownership that still actively participated in the BSAI rationalized crab fisheries. With the exception of one vessel for 1 year, both of these vessels have also fished in fisheries other than rationalized crab in each of the years since the implementation of the rationalization program. A fourth vessel (*Vessel Sand Point D*), shown in the dataset as Sand Point owned and having fished in both the Bristol Bay red king crab and Bering Sea snow crab fisheries in 1998–2000, but as a Seattle-owned boat thereafter participating in both fisheries until 2004, was identified as owned by a Sand Point resident during interviews, but this vessel has apparently not participated in any fishery since 2004. A fifth vessel (*Vessel Sand Point E*), shown in the dataset as Sand Point owned and having fished in the Bristol Bay red king crab fishery in 1998–2000, but as a Seattle-owned boat thereafter participating in the fishery until 2004, was identified as owned by a Sand Point resident during interviews. This vessel has continued to participate in fisheries other than rationalized crab every year since the implementation of the rationalization program. *Vessel Sand Point D* and *Vessel Sand Point E* were reportedly owned by the same individual (until *Vessel Sand Point D* was sold under the buy-back program), and the owner of these two vessels is reportedly a partial owner of *Vessel Sand Point C* as well. A sixth vessel (*Vessel Sand Point F*), shown in the dataset as Sand Point owned and having fished in the Bristol Bay red king crab fishery in 2000, but as a Bellevue/Renton (WA) owned boat thereafter participating in the fishery until 2004, was identified as owned by a Sand Point resident during interviews and has continued to participate in fisheries other than the rationalized crab fisheries every year since the implementation of the crab rationalization program. The apparent disconnect between ownership as shown in the dataset and ownership as reported during field interviews is not unique to Sand Point, but it is singular in its pervasiveness in this community. Part of the answer may be that individual vessel owners may have residences

in more than one community, with individuals who historically were Sand Point residents spending at least part of the year in the Pacific Northwest in more recent years, but in any event, Sand Point residents would appear to have more direct access to vessels with local ownership ties still directly participating in the rationalized crab fisheries than the residents of any of the other Aleutian region communities, and especially among the non-CDQ communities.

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, however, as of the 2010/2011 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 quota and the number of quota units held has remained constant as of the 2010/2011 season IFQ allocation process, but this fishery has not been open for several years.)

- **Crew** – Interviews conducted in Sand Point for the crab rationalization 3-year program review (2008) suggested 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 those 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 was estimated to be closer to a dozen, as different individuals would occupy these positions from year to year. Some of the individuals involved were then cod fishing in the winter out of Sand Point, but there had reportedly 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 in 2008 was 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 crew quota shares for a Sand Point resident in the active BSAI rationalized crab fisheries, and that was in the Bristol Bay red king crab fishery. This level of share ownership (and relative share allocation) was unchanged as of the 2010/2011 seasonal IFQ allocation. (One Sand Point resident did qualify for an initial allocation of Pribilof blue and red king crab catcher vessel 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 2010). According to interviews conducted in 2008, the discontinuation of processing of Bristol Bay red king crab reportedly did affect seasonal worker demand at the local plant for at least a brief period, but changes in pollock product form created an offsetting need for additional processors during this time, such that net demand was essentially unchanged.

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. According to interviews conducted for the crab rationalization 3-year program review (2008), while the Shumagin Corporation in particular had 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 had been characterized by flexibility and the ability to adapt to fishery conditions that may fluctuate on a shorter- or longer-term basis. Also as reported in 2008, it was the opinion of community leaders interviewed that while limited access to investment capital at that time resulted in a little less flexibility in recent years, the customer base for fishery support services was affected more by the larger economic forces surrounding the salmon and halibut fisheries than changes in 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 \$1.3 million in 2008. 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, 2007, and 2008. Overall total operating revenues have not shown the same degree of variability, however, and between 2004 and 2008 they ranged from \$2.4 million and \$3.0 million.

1.3.6 Adak

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2010 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 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 crew quota shares in any of the rationalized BSAI crab fisheries.

Processing

- At the time of the crab rationalization 3-year program review (2008), Adak was home to one onshore processing operation (Adak Fisheries), which, among crab fisheries, was 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 in 2008 suggested 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.

More recently (April 2009), the Adak plant itself closed down and remained closed through the 2009/2010 seasons, although it is expected to reopen under new ownership in time for 2011 A season, following an October 2010 resolution of outstanding business issues. During the period the plant has been shut down, no crab processing has occurred in Adak, although some local fleet activity has taken place with halibut being flown fresh from the community. Crab that would have been processed in Adak has reportedly been processed in Unalaska/Dutch Harbor while the Adak plant has been shuttered. Recent sea lion-related area closures in areas otherwise typically fished by those delivering to the

local plant will reportedly provide additional challenges to local harvesting and processing operations once the plant has reopened.²²

Support Services

- As a newly reconstituted civilian community, Adak was characterized in the crab rationalization 3-year program review (2008) as being in the process of developing support service capabilities for the fishing fleet. One challenge reported at that time was that, according to local business owners, vessels that fished in the Adak area in the more distant past were used to being self-sufficient and may not have realized that supplies and services were now available locally or, even if they did have an awareness of availability, still had established relationships elsewhere. This was true of the few larger crab vessels in the area, some of which had started to refuel in Adak. Vessel crew transfers were also increasing in Adak at that time, as Alaska Airlines was able to provide relatively well-scheduled service to Adak's former military airport. More recently, support service businesses have felt the impact of the local processing plant closure. Around this same time, the local electric utility was transferred in the winter of 2008/2009 from the city to TDX, a private entity, that by necessity, is reportedly more focused on cost-recovery than the city was, which has translated into more expensive energy costs, prompting the relocation (and removal from the grid) of at least one business since the time of the crab rationalization 3-year program review. Recent sea lion-related fishing area closures are also anticipated to impact local marine fuel sales, beyond sales to vessels delivering to the local plant.

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, \$589,000 in 2006, and \$405,000 in 2008. The total revenue for 2008 (\$1,361,881) marks the lowest total revenue since 2002 (\$1,236,726), which was the first year Adak provided municipal revenue information to the State of Alaska, 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 positive results almost every year to date. The City did

²² As noted in a staff report scheduled to be delivered to the NPFMC in December, 2010, additional uncertainty for future Adak processing operations stem from a draft Steller sea lion Biological Opinion released by the National Marine Fisheries Service (NMFS) in August, 2010, within which NFMS outlined a reasonable and prudent alternative (RPA) that would significantly restrict Pacific cod and Atka mackerel fisheries in the Aleutian Islands, with Area 543 (western Aleutian Islands) closed to both fisheries entirely. As a season catcher vessel deliveries of Aleutian Island cod had been a mainstay of the shoreside processor in Adak for several years, this may have a substantial impact on the future viability of local processing, with actual impacts of Pacific cod restrictions (for the industry and general and Adak processing in particular) depending on the scope of the final RPA.

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, and have been collected in all subsequent years to date (2010), including during the time the local processing plant has been closed and processing of crab harvested under this allocation has occurred in Unalaska/Dutch Harbor.

1.3.7 St. Paul

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2010 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. Catcher vessel owner quota (non-CDQ quota) currently (2010) held by the CBSFA includes quota shares in all of the rationalized BSAI crab fisheries. Although no St. Paul entities were issued catcher processor owner quota during the initial allocation process, in 2008 the CBSFA, through its wholly owned subsidiary 57° North, obtained catcher processor owner shares in the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, and Bering Tanner West fisheries through the purchase of shares originally allocated to Highland Light Seafoods and Yardarm Knot, and still (2010) holds these shares.
- **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 through the CBSFA. Officials from the 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, (2) relatively ample alternate employment opportunities on-island during typical crabbing months, and (3) the less attractive nature of the BSAI crab fishery when compared to the halibut fishery. No St. Paul residents qualified for an initial allocation of catcher vessel 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, and by limitations imposed by weather. While the floating processors do not typically employ any St. Paul residents, a handful of long-term residents are employed at the Trident shoreplant, mostly as dock workers or crane operators. 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 GHGs 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 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. The local CDQ organization has invested in rationalized crab and has reinvested the profits from those activities into a more secure base for support services, funding a large proportion of the newly installed small boat harbor, as well as purchasing cranes, funding and supporting visiting shipwrights and other trade workers, and participating in the construction and establishment of a new boat maintenance facility.

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 were over \$929,000. Data from 2007 in a form comparable to other years was not compiled by the state, but taxes in 2008 were the highest they had been since 2000, at \$1.9 million. Total revenues for St. Paul in 2008 were almost twice as high as in 2005 and 2006. Unlike a number of earlier post-rationalization years when taxes on some landings in St. Paul were shared with the City of St. George (as described in the St. George summary below), since 2009 the City of St. Paul has received the benefit of fish taxes on all BSAI crab landed in community.

1.3.8 St. George

Harvesting

- **Vessels** – According to the BSAI crab fishery 1998–2010 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 catcher vessel 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 in part by APICDA. However, information gathered during fieldwork in 2007 suggests that this is not regularly practiced. No St. George residents qualified for an initial allocation of catcher vessel 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 the implementation of 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.²³ North region-designated processor quota that was historically accrued by Snopac Products, Inc. and Peter Pan Seafoods in St. George has been processed in St. Paul since the implementation of the rationalization program. In October 2008, APICDA announced that its wholly owned for-profit subsidiary, APICDA Joint Ventures, Inc., reached an agreement with Snopac Products, Inc. to purchase all of Snopac’s crab processor quota shares originally associated with St. George, along with

²³ The St. George harbor and its entrance were damaged in a storm in 2004, effectively preventing the rebuilding of local processor capacity in subsequent years.

their crab processing line and equipment. APICDA had earlier reached a contractual relationship with Peter Pan Seafoods regarding the processor quota shares that Peter Pan qualified for through their St. George-based operations, although the specifics of that contractual relationship remain confidential. One stated goal of APICDA in acquiring the processor quota shares from Snopac was to eventually return processing activity to St. George, but the timeline for doing so depends on a number of factors that would make it economically feasible to do so, including completion of significant repairs/improvements to the harbor, the timing of which is indefinite. In the meantime, St. George, as a member community of APICDA, shares the benefits of owning the processor quota shares accrued in the community with other APICDA member communities.

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 GHGs. Damage to the harbor several years ago exacerbated the situation, making navigation of the harbor difficult for larger crab vessels and leading many of these vessels to refuel and/or store crab pots in nearby St. Paul instead of St. George.

Local Governance and Revenues

- Detailed information on fish taxes cannot be disclosed, but it is known that in recent years no landings have been made in the community by vessels other than the local small-boat fleet and that even those landings are tendered to St. Paul for processing. In the early years of the crab rationalization program, however, an agreement was made yearly between St. George and St. Paul to share fish taxes earned on processor quota historically accrued in St. George but actually processed in St. Paul. While never formalized, beginning in 2006, the processing entity in St. Paul (either Trident or Icicle) communicated to the City of St. Paul how much of each community's quota has been processed. St. Paul then calculated the fish tax associated with the St. George quota history and transferred 90 percent of that total to the City of St. George. As described by the St. Paul city manager in a 2008 interview, this agreement was seen as a win/win situation for each community, as St. George was able to gather some taxes from its crab quota, while St. Paul strengthened its ties and improved its relationship with neighboring St. George. At the time of the crab rationalization 3-year program review (2008), while the regionalization feature of the BSAI crab rationalization program had not served to retain (or reinstate) crab processing in St. George, it served to direct revenues to the community that otherwise would have gone elsewhere. Importantly, however, as noted in the 3-year program review, no long-term agreement was in place to ensure continued public revenue returns to St. George. More recently, these sales tax rebates to the City of St. George from the City of St. Paul have been discontinued, with the last check having been sent to St. George in December 2008. While St. George, through its membership in APICDA, presumably has gained benefits from the ownership of the processor quota shares that were historically associated with the community, at virtually the same time it

lost the benefits of municipal revenues being generated by the processing of those shares when St. Paul returned to the standard practice of retaining local taxes on landings made in St. Paul. In general, St. George 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. In 2006, however, total revenues began to rise, increasing to \$835,657 in 2006 and to \$1.8 million in 2008.

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. These include fishery participation through locally owned vessels as well as through holding catcher vessel owner shares and or catcher vessel crew shares, among several other factors.

Vessel, Processor, Catcher Vessel Owner Share-, and Catcher Vessel Crew Share-Based Participation

- As noted in Section 1.2.2, from 1998 through 2009/2010, catcher vessels participating in the now-rationalized crab fisheries were owned by individuals or entities in 19 different Alaska communities. In addition to the communities whose residents were already noted in the above summaries as owning crab vessels (Unalaska/Dutch Harbor, Akutan, King Cove, Kodiak, and Sand Point), the other communities are Anchor Point, Anchorage, Big Lake, Cordova, Homer, Kenai, Ketchikan, Pelican, Petersburg, Seldovia, Seward, Sitka, Wasilla, and Yakutat. As discussed in Section 1.2.2, 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 for these other communities.
- As noted in Section 1.2.4, from 1998 through 2010, processors participating in the now-rationalized crab fisheries operated in 11 different Alaska communities. In addition to the communities with locally operating processors already noted in the above summaries (Unalaska/Dutch Harbor, Akutan, King Cove, Kodiak, Sand Point, Adak, and St. Paul), the other communities are Anchor Point, Anchorage, Big Lake, Cordova, Homer, Kenai, Ketchikan, Pelican, Petersburg, Seldovia, Seward, Sitka, Wasilla, and Yakutat. As discussed in Section 1.2.4, however, none of these communities, with the exception of Unalaska/Dutch Harbor, have had a sufficient number of processors to allow disclosure of processing volumes or values, such that pre- and post-rationalization processing comparisons cannot be made for these other communities.
- 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.

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- In terms of the catcher vessel crew quota share initial allocations, 12 Alaska communities had residents who received catcher vessel crew allocations. In addition to the communities whose residents received an initial allocation of catcher vessel crew 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 catcher vessel crew quota in any individual fishery except for Anchorage and Homer.

The following paragraphs summarize individual Alaska community participation, and pre- and post-rationalization participation, for these four factors. (This listing is exclusive of the eight communities summarized in Sections 1.3.1 through 1.3.8.)

South-Central Alaska Communities

- **Anchor Point:** One vessel listed as owned by an Anchor Point resident fished Bristol Bay red king crab in 2004 (prior to rationalization). No other Anchor Point resident owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - No Anchor Point residents received initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, nor had any catcher vessel owner quota been acquired by residents as of the 2010/2011 season.
 - No Anchor Point residents received initial allocations of catcher vessel crew quota in any of the rationalized crab fisheries, nor had any catcher vessel crew quota been acquired by residents as of the 2010/2011 season.
- **Big Lake:** One vessel listed as owned by a Big Lake resident fished Bristol Bay red king crab in 2000 and one vessel listed as owned by a Big Lake resident fished Bering Sea snow crab in 1999 (both prior to rationalization). No other Big Lake resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - No Big Lake residents received initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, nor had any catcher vessel owner quota been acquired by residents as of the 2010/2011 season.
 - No Big Lake residents received initial allocations of catcher vessel crew quota in any of the rationalized crab fisheries, nor had any catcher vessel crew quota been acquired by residents as of the 2010/2011 season.
- **Cordova:** One or two vessels listed as owned by a Cordova resident fished the Bristol Bay red king crab fishery in each of the years 1998–2004 (prior to rationalization) and one or two vessels listed as owned by a Cordova resident fished the Bering Sea snow crab fishery in each of the years 1998–2005 (prior to rationalization). No other Cordova resident owned vessels fished any of the rationalized crab fisheries during 1998–

2009/2010 before or after rationalization. Processing of Bering Sea snow crab occurred at one Cordova plant in 2001, but no other Cordova plant processed any rationalized crab during 1998–2010 before or after rationalization.

- No Cordova residents received initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, nor had any catcher vessel owner quota been acquired by residents as of the 2010/2011 season.
- No Cordova residents received initial allocation catcher vessel crew quota shares in any of the rationalized crab fisheries. By 2010/2011, however, one Cordova resident held catcher vessel crew quota in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, Bering Tanner West, St. Matthew blue king crab fisheries.
- **Dillingham:** No Dillingham resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - One Dillingham resident received initial catcher vessel owner quota shares in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner West, St. Matthew blue king crab, Pribilof blue and red king crab, and WAI red king crab fisheries; two residents received initial catcher vessel owner quota shares in the Bering Tanner East fishery. By 2010/2011, the number of unique quota holders had not changed (other than a decrease of one in the Bering Tanner East fishery), but Dillingham residents had increased the amount of quota units held in each of the fisheries for which Dillingham residents received initial allocations, except for the Pribilof blue and red king crab fishery and the WAI red king crab fishery, where the number of quota share units held by Dillingham residents remained unchanged.
 - No Dillingham residents received initial allocations of catcher vessel crew quota in any of the rationalized crab fisheries, nor had any catcher vessel crew quota been acquired by residents as of the 2010/2011 season.
- **Kenai:** One vessel listed as owned by a Kenai resident fished Bristol Bay red king crab from 1998 through 2001 and one vessel listed as owned by a Kenai resident fished Bering Sea snow crab from 1998 through 2002 (both prior to rationalization). No other Kenai resident owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - Kenai residents received no initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, but by 2010/2011 one unique quota holder held quota share units in the Pribilof blue and red king crab fishery.
 - One Kenai resident received initial allocation catcher vessel crew quota shares in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Sea Tanner, and Pribilof blue and red king crab fisheries. By 2010/2011, however, no Kenai

residents held catcher vessel crew shares in any of the rationalized crab fisheries, except for the Pribilof blue and red king crab fishery, where the amount of quota share units held was unchanged from the initial allocation.

- **Ninilchik:** No Ninilchik resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. Processing of Bering Sea snow crab occurred at one Ninilchik plant in 1998, but no other processing of any rationalized crab occurred from 1998–2010, before or after rationalization.
 - No Ninilchik residents received initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, nor had any catcher vessel owner quota been acquired by residents as of the 2010/2011 season.
 - No Ninilchik residents received initial allocations of catcher vessel crew quota in any of the rationalized crab fisheries, nor had any catcher vessel crew quota been acquired by residents as of the 2010/2011 season.
- **Seward:** Four and three vessels listed as owned by Seward residents fished the Bristol Bay red king crab and Bering Sea snow crab fisheries, respectively, in 1998; one vessel listed as owned by a Seward resident fished in each of these fisheries in 1999 and 2000 (prior to rationalization) as well. No other Seward resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - No Seward residents received initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, nor had any catcher vessel owner quota been acquired by residents as of the 2010/2011 season.
 - No Seward residents received initial allocations of catcher vessel crew quota in any of the rationalized crab fisheries, nor had any catcher vessel crew quota been acquired by residents as of the 2010/2011 season.
- **Soldotna:** No Soldotna resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - No Soldotna residents received initial catcher vessel owner quota shares in any of the rationalized crab fisheries. By 2010/2011, however, one Soldotna resident held catcher vessel quota in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, Bering Tanner West, St. Matthew blue king crab, and WAI red king crab fisheries.
 - One Soldotna resident received initial catcher vessel crew quota shares in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, Bering Tanner West, and Pribilof blue and red king crab fisheries. By 2010/2011, the number of unique quota holders had not changed in the Bristol Bay red king crab and Bering Sea snow crab fisheries, but the number of quota share units held had

increased for the Bristol Bay red king crab fishery and decreased for the Bering Sea snow crab fishery. In the Bering Tanner East and Bering Tanner West fisheries, there were two unique Soldotna holders of catcher vessel crew quota by 2010/2011, accompanied by an increase in quota share units held in each of these fisheries. Soldotna holdings of Pribilof blue and red king crab catcher vessel quota increased between initial allocation and 2010/2011, while one Soldotna resident came to hold St. Matthew blue king crab catcher vessel crew quota by 2010/2011.

- **Wasilla:** One vessel listed as owned by a Wasilla resident fished in the Bristol Bay red king crab, the Bering Sea snow crab, and the Bering Tanner East fisheries in 2009/2010 (after rationalization). No other Wasilla resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. Processing of Bering Sea snow crab occurred at one Wasilla plant in 1998, but no other Wasilla plant processed any rationalized crab during 1998–2010 before or after rationalization.
 - No Wasilla residents received initial allocation catcher vessel owner quota shares in any of the rationalized crab fisheries. By 2010/2011, however, one Wasilla resident held catcher vessel owner quota in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, Bering Tanner West, and Pribilof blue and red king crab fisheries.
 - One Wasilla resident received initial catcher vessel crew quota shares in each of the Bristol Bay red king crab, Bering Tanner East, Bering Tanner West, and Pribilof blue and red king crab fisheries. By 2010/2011, the number of unique quota holders and the number of quota share units held by Wasilla residents had not changed from initial allocation levels.
- **Valdez:** No Valdez resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - No Valdez residents received initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, nor had any catcher vessel owner quota been acquired by residents as of the 2010/2011 season.
 - One Valdez resident received initial allocations of catcher vessel crew shares in the Bristol Bay red king crab, Bering Tanner East, and Bering Tanner West fisheries. By 2010/2011, however, no Valdez residents held any catcher vessel crew quota in any of the rationalized crab fisheries.
- **Seldovia:** One vessel listed as owned by a Seldovia resident fished the Bristol Bay red king crab fishery in each of the years 1998–2004 (prior to rationalization) and one vessel listed as owned by a Seldovia resident fished the Bering Sea snow crab fishery in each of the years 1998–2005 (prior to rationalization). One vessel listed as owned by a Seldovia resident fished in 4 of the 5 years 2005/2006 through 2009/2010 (after rationalization) in the Bristol Bay red king crab fishery and the Bering Sea snow crab fishery, including the

most recent year; in each of these fisheries during one of the post-rationalization years, no Seldovia-owned vessels participated. One vessel listed as owned by a Seldovia resident also participated in the Bering Tanner West fishery in 2006/2007 (after rationalization). No other Seldovia resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.

- One Seldovia resident received initial catcher vessel owner quota shares in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, Bering Tanner West, and Pribilof blue and red king crab fisheries. By 2010/2011, the number of unique quota holders and the number of quota share units held by Seldovia residents had not changed from initial allocation levels.
- No Seldovia residents received initial allocations of catcher vessel crew quota in any of the rationalized crab fisheries, nor had any catcher vessel crew quota been acquired by residents as of the 2010/2011 season.
- **Anchorage:** Between five and seven vessels listed as owned by Anchorage residents fished the Bristol Bay red king crab fishery in each of the years 1998–2004 (prior to rationalization) and five or six vessels listed as owned by Anchorage residents fished the Bering Sea snow crab fishery in each of the years 1998–2005 (prior to rationalization), with the last year prior to rationalization featuring the highest number of active vessels in each case. Four vessels listed as owned by Anchorage residents fished the Bristol Bay king crab fishery 4 of the 5 years 2005/2006 through 2009/2010 (after rationalization) including the most recent year, with two vessels fishing the other year, and between one and six vessels listed as owned by Anchorage residents have fished in the Bering Sea snow crab fishery each year 2005/2006 through 2009/2010 (after rationalization) with five vessels fishing in the most recent year. One vessel listed as owned by an Anchorage resident fished in the EAI golden king crab fishery each year 1998 through 2004 (prior to rationalization); one vessel listed as owned by an Anchorage resident has fished in this fishery in 2008/2009 and 2009/2010 (after rationalization). One vessel listed as owned by an Anchorage resident fished in the WAI golden king crab fishery in 1998, 2000, and 2001 (prior to rationalization); one vessel listed as owned by an Anchorage resident has fished in this fishery in 2009/2010 (after rationalization). Between one and three vessels listed as owned by Anchorage residents have fished annually in the Bering Tanner West fishery each year 2005/2006 through 2009/2010 (after rationalization). No other Anchorage resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - Multiple Anchorage residents received initial catcher vessel owner quota shares in all rationalized fisheries (with up to eight unique quota holders per fishery) except for the EAI golden king crab and WAI golden king crab fisheries (in which no Anchorage residents held initial quota allocations). By 2010/2011, Anchorage residents had come to hold catcher vessel owner quota in all of the rationalized crab fisheries and had increased the number of unique quota holders and the amount of quota units held in all of the rationalized fisheries, easily becoming the largest concentration of catcher vessel owner quota held in Alaska outside of

Kodiak for most of the fisheries, and surpassing Kodiak in a few of the fisheries. It is important to note, however, that in a situation unique to Anchorage, much of the Anchorage ownership of catcher vessel owner quota share units acquired since initial allocation actually consists of ownership by CDQ groups with offices (and addresses) in Anchorage, and not of ownership by individuals or small-scale private fishing firms. In 2010/2011, for example, in the Bristol Bay red king crab fishery, Coastal Villages Region Fund held 54 percent of all the catcher vessel owner quota share units listed as held in Anchorage, while the Yukon Delta Fisheries Development Association and the Norton Sound Economic Development Corporation held 20 and 3 percent, respectively. Among Anchorage address initial allocation quota holders (none of which were CDQ groups), three of the original eight held no quota by 2010/2011, two held fewer quota share units, two held the same number of quota share units, and one increased the number of quota share units held. Similarly, in 2010/2011, in the Bering Sea crab fishery, Coastal Villages Region Fund held 47 percent of all the catcher vessel owner quota share units listed as held in Anchorage, while the Yukon Delta Fisheries Development Association and the Norton Sound Economic Development Corporation held 21 and 6 percent, respectively. None of these CDQ groups held any catcher vessel owner quota shares at the time of initial allocation. Among Anchorage address initial allocation quota holders (none of which were CDQ groups), two of the original eight held no quota by 2010/2011, two held fewer quota share units, four held the same number of quota share units, and none increased the number of quota share units held. Additionally, there was one new non-CDQ catcher vessel owner quota share holder by 2010/2011.

- Multiple Anchorage residents received initial allocation catcher vessel crew quota shares in the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, Bering Tanner West, St. Matthew blue king crab, and Pribilof blue and red king crab fisheries, along with one resident receiving initial allocation catcher vessel crew quota shares in the EAI golden king crab) fishery. By 2010/2011, however, the number of quota holders and quota share units held had dropped to zero for the EAI golden king crab and the Pribilof blue and red king crab fisheries; the number of unique quota holders and quota units held had declined in the Bristol Bay red king crab and Bering Sea snow crab fisheries, and in St. Matthew blue king crab fishery the number of unique quota holders increased by one, but the number of quota share units held declined over this period. In the Bering Tanner East and Bering Tanner West fisheries, the number of unique quota holders declined, but the number of quota share units held by Anchorage residents increased somewhat.
- **Homer:** Between nine and five vessels listed as owned by Homer residents fished the Bristol Bay red king crab fishery in each of the years 1998–2004 (prior to rationalization) and between eight and three vessels listed as owned by Homer residents fished the Bering Sea snow crab fishery in each of the years 1998–2005 (prior to rationalization), with the specific numbers per year decreasing over these time spans. Three or four vessels listed as owned by Homer residents fished the Bristol Bay king crab fishery each year 2005/2006 through 2009/2010 (after rationalization) and between two and five vessels listed as owned by Homer residents have fished in the Bering Sea snow crab fishery each

year 2005/2006 through 2009/2010 (after rationalization), with numbers in the Bering Sea snow crab fishery increasing each of the most recent 4 years. In the Bering Tanner East and the Bering Tanner West fisheries, one vessel listed as owned by a Homer resident fished in 4 of the 5 post-rationalization years, while three vessels listed as owned by Homer residents fished in the other post-rationalization year (which was not the most recent year in either case). No other Homer resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.

- Multiple Homer residents received initial catcher vessel owner quota shares in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, Bering Tanner West, and Pribilof blue and red king crab fisheries. By 2010/2011, Dillingham residents had come to hold catcher vessel owner quota in the St. Matthew blue king crab fishery as well, and had increased the number of unique quota holders and the amount of quota units held in the Bristol Bay red king crab, Bering Sea snow crab, and Pribilof blue and red king crab fisheries. The number of unique Homer quota holders remained constant, but the number of quota share units held by Homer residents declined at least to some degree in the Bering Tanner East, and Bering Tanner West fisheries between initial allocation and 2010/2011.
- Multiple Homer residents received initial allocation catcher vessel crew quota shares in the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, Bering Tanner West, and Pribilof blue and red king crab fisheries, along with a single resident receiving initial allocation catcher vessel crew quota shares in the St. Matthew blue king crab fishery. By 2010/2011, however, Homer residents had increased both the number of unique share holders and the number of quota share units held in each of the fisheries for which Homer residents received initial catcher vessel crew share allocations.

Southeast Alaska Communities

- **Pelican:** One vessel listed as owned by a Pelican resident fished Bering Sea snow crab in 1998 (prior to rationalization). No other Pelican resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - No Pelican residents received initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, nor had any catcher vessel owner quota been acquired by residents as of the 2010/2011 season.
 - No Pelican residents received initial allocations of catcher vessel crew quota in any of the rationalized crab fisheries, nor had any catcher vessel crew quota been acquired by residents as of the 2010/2011 season.

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- **Petersburg:** Four vessels listed as owned by Petersburg residents fished the Bristol Bay red king crab and Bering Sea snow crab fisheries each year from 1998 through 2002 and two vessels each fished each of the remaining pre-rationalization years (2003 and 2004 for Bristol Bay red king crab and 2003 through 2005 for Bering Sea snow crab). No other Petersburg resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - Three Petersburg residents received initial catcher vessel owner quota shares in each of the Bering Sea snow crab, Bering Tanner East, and Bering Tanner West fisheries; two Petersburg residents received initial catcher vessel owner quota in the Bristol Bay red king crab fishery; and one Petersburg resident received an initial allocation in the St. Matthew blue king crab fishery. By 2010/2011, only one Petersburg resident held quota in the Bristol Bay red king crab fishery and the number of quota share units held in this fishery declined substantially. For the Bering Sea snow crab, Bering Tanner East, and Bering Tanner West fisheries, however, the number of unique quota holders increased by one, while the number of quota share units held remained the same. For the St. Matthew blue king crab fishery, the number of unique quota holders decreased by one, but the number of quota share units held was the same in 2010/2011 as at the time of initial allocation.
 - One Petersburg resident received initial catcher vessel crew quota shares in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, and Bering Tanner West fisheries. By 2010/2011, two Petersburg residents held catcher vessel crew quota shares in each of these fisheries and the number of quota share units held by Petersburg residents increased substantially in each of these fisheries. One Petersburg resident had also come to hold St. Matthew blue king crab catcher vessel crew quota by 2010/2011.
 - **Sitka:** One or two vessels listed as owned by Sitka residents fished the Bristol Bay red king crab and Bering Sea snow crab fisheries each year from 1998 through 2004 (prior to rationalization). No other Sitka resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. Processing of Bristol Bay red king crab occurred at one Sitka plant in 2006, but no other Sitka plant processed any rationalized crab during 1998–2010 before or after rationalization.
 - No Sitka residents received initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, nor had any catcher vessel owner quota been acquired by residents as of the 2010/2011 season.
 - One Sitka resident received initial allocation catcher vessel crew quota in the Bering Tanner East and Bering Tanner West fisheries. By 2010/2011, however, no Sitka residents held catcher vessel crew quota in any of the rationalized crab fisheries.
 - **Yakutat:** One vessel listed as owned by a Yakutat resident fished Bristol Bay red king crab 6 out of the 7 years from 1998 through 2004 (prior to rationalization) and one vessel

listed as owned by a Yakutat resident fished Bering Sea snow crab 6 out of the 8 years from 1998 through 2005 (prior to rationalization). No other Yakutat resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.

- One Yakutat resident received initial catcher vessel owner quota shares in each of the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, Bering Tanner West, and St. Matthew blue king crab fisheries. The number of unique quota holders did not change in any of these fisheries between the time of initial allocation and 2010/2011. By 2010/2011, the number of locally held quota share units in the Bristol Bay red king crab fishery had declined substantially, but for all of the other fisheries for which Yakutat residents received initial quota allocations, the number of quota share units held were the same in 2010/2011 as they had been at the time of initial allocation.
- No Yakutat residents received initial allocations of catcher vessel crew quota in any of the rationalized crab fisheries, nor had any catcher vessel crew quota been acquired by residents as of the 2010/2011 season.
- **Ketchikan:** One vessel listed as owned by a Ketchikan resident fished the Bristol Bay red king crab fishery in each of the years 1998–2004 (prior to rationalization) and one vessel listed as owned by a Ketchikan resident fished the Bering Sea snow crab fishery in each of the years 1998–2005 (prior to rationalization). One vessel listed as owned by a Ketchikan resident fished in the Bristol Bay red king crab, Bering Sea snow crab, and Bering Tanner East fisheries during the 2006/2007 and 2007/2008 seasons (after rationalization). No other Ketchikan resident-owned vessels fished any of the rationalized crab fisheries during 1998–2009/2010 before or after rationalization. No rationalized crab was processed in the community during 1998–2010 before or after rationalization.
 - No Ketchikan residents received initial allocations of catcher vessel owner quota in any of the rationalized crab fisheries, nor had any catcher vessel owner quota been acquired by residents as of the 2010/2011 season.
 - No Ketchikan residents received initial allocations of catcher vessel crew quota in any of the rationalized crab fisheries, nor had any catcher vessel crew quota been acquired by residents as of the 2010/2011 season.

Crew Employment Participation

In addition to communities directly participating in the rationalized crab fisheries through vessel ownership, catcher vessel owner quota ownership, and catcher vessel crew quota ownership, communities also participate through crew employment. It is known that catcher vessel crab crew members were and are dispersed among multiple Alaska communities. 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 crew quota distribution, or follow their own pattern.

Catcher Processor Based Participation

There are catcher processor ties to a very few Alaska communities. Among Alaska communities, only Anchorage residents received initial allocations of BSAI rationalized crab catcher processor owner quota, and these occurred in the Bristol Bay red king crab, Bering Sea snow crab, Bering Tanner East, and Bering Tanner West fisheries. By 2010/2011, the number of unique Anchorage holders of catcher processor owner quota and the amount of catcher processor quota share units held had increased substantially in each of these fisheries. (As previously noted in the St. Paul summary, St. Paul had also acquired catcher processor owner quota shares by 2010/2011 as well.) Among Alaska communities, only Anchorage and Kodiak residents received initial allocations of catcher processor crew quota. One unique quota holder in Anchorage received quota in each of the Bering Sea Tanner East and Bering Sea Tanner West fisheries. By 2010/2011, however, no Anchorage residents held any catcher processor crew quota. (As previously noted in the Kodiak summary, two unique Kodiak residents received initial allocations of catcher processor crew quota in Bristol Bay red king crab fishery and, as of 2010/2011, the number of holders of this quota and the number of quota share units held are unchanged.)

CDQ Based Participation

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 crab rationalization 5-year program review (see Section 7 of the main body of this crab rationalization 5-year program review document). Additionally, as noted in processor quota shares distribution discussion 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 that required share divestiture, with the result that at least some of the formerly Unalaska-based shares may be processed elsewhere in the future, essentially creating a new community entrant into BSAI crab processing, although at present (2010) they are being processed under a custom processing arrangement in Unalaska.

Cooperatives-Based Participation

The cooperatives and related structures that have formed under the BSAI crab rationalization program have, at least in some instances, identifiable geographic/community-based dimensions to their constituent membership. According to a knowledgeable industry source, in the first phase of co-op formation under the rationalization program, there were individual co-ops that might be termed community-centric, or region-centric, for Kodiak, Homer, and Oregon, and possibly other locations, in that the composition of their membership was, in part, structured by established relationships that had place-based dimensions to them. For these co-ops, as well as others, established relationships were reportedly a common foundation in the formation of individual cooperatives, but it is important to note that these established relationships were based on a range of factors that may or may not include common geographic ties for any individual co-op. This process, and the relative role of geographic relationships, was somewhat different than what was seen with the earlier formation of co-ops in the pollock fishery. When co-ops were formed in the pollock fishery under the auspices of the AFA, it was not uncommon for the preexisting

relationships that contributed to any particular co-op formation to include a common community orientation based on the historic location of landings (among other factors). This commonality of location of landings was based on relatively strong common processor ties, as even before the formation on co-ops, the vessels were organized into a platoon system for deliveries to individual processors, which was largely dictated by biological resource and product form constraints specific to that fishery. This platoon system arrangement, in turn, structured relationships between delivering vessels. In the case of the crab fishery, however, processor delivery patterns were reportedly less of a factor in structuring relationships between harvesters, given a different strength of relationship between harvesters and processors in the crab fishery compared to the pollock fishery. Pre-rationalization, it was reportedly not uncommon for crab vessels to contact processors on the way in from the fishing grounds to ascertain price and offload turnaround time, with both of these considerations subject to negotiation that could result in the vessel choosing to deliver to a different processor than originally intended. With the evolution of the inter-cooperative exchange under the crab rationalization program, geographically or community-based co-ops are no longer apparent in the crab fishery, but the voting districts within the inter-cooperative exchange, themselves shaped by preceding co-op structures, still retain the geographic affiliation of a number of those earlier structures. Within the inter-cooperative exchange, voting districts coordinate the activities of the subset of inter-cooperative members in those districts, with the continuing cooperation of Kodiak, Homer, and Oregon vessels still reportedly evident on the voting district level as it was at the co-op level in the initial phase of co-op formation.

Other Eligible Crab Communities: False Pass and Port Moller

As noted earlier, a total of nine Alaska communities were determined eligible for community protection measures under the BSAI rationalization program as implemented. These Eligible Crab Communities were defined as those with 3 percent or more of the qualified landings in any fishery included in the program. These communities were Unalaska/Dutch Harbor, Akutan, King Cove, Kodiak, Adak, St. Paul, and St. George (summarized in Sections 1.3.1 through 1.3.4 and 1.3.6 through 1.3.8), plus False Pass and Port Moller. Community protection measures applicable to these nine Eligible Crab Communities include (or included) right of first refusal on proposed sales of processor quota shares (except for Adak) and a “cooling-off” period (a temporary prohibition against the use of individual processor quota outside of the community or borough boundary in which the individual processor quota was derived). False Pass and Port Moller have had significantly different histories of engagement with the crab fishery than the other Eligible Crab Communities or other communities noted above as engaged to some degree in the BSAI crab fisheries. They have also had substantially different outcomes under the crab rationalization program than what has been seen in the other communities discussed.

False Pass

False Pass, is known to have experienced at least some other types, or combination of types, of impacts related to crab rationalization not common to other communities. A small community (with population 64 in 2000, according to the U.S. Census, and a state-certified population of 41 in 2009) 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 (2010) 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), which is the same situation as reported at the time of the crab rationalization 3-year program review (2008). According to the mayor of False Pass interviewed in 2008, 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. A more recent interview confirmed that this is still the situation at present (2010) and, although the city has increased their fees, revenue related to pot movement is still well below pre-rationalization levels. The community has also lost revenues as a result of crab rationalization as with a smaller fleet (following consolidation) there has been less traffic through the community resulting in less business activity in general, including sales at the local store (owned by the Isanotski Corporation).

According to the mayor, additional revenues accrued to the City of False Pass in pre-rationalization years from a floating processor processing red king crab within the city limits, but that reportedly has not occurred in post-rationalization years through the present (2010). False Pass is unique with respect to being a year-round community determined to be an Eligible Crab Community for the purposes of the right of first refusal and cooling off period community protection measures under the crab rationalization program, but effectively not receiving the same individual community level of protection as occurred with other year-round communities that also qualified as Eligible Crab Communities for a number of reasons. False Pass crab processing history was exclusively accrued through floating processing, not shore plant processing or a combination of shore plant and floating processing as was the case in the other communities, and this history was essentially consolidated within the AEB, which did not trigger cooling off provisions, such that post-rationalization processing of the processor quota that otherwise would have been associated with False Pass has apparently taken place elsewhere in the AEB.²⁴ (The non-crab processing that does take place in False Pass at present [2010] is reported to occur at the local APICDA-owned shore plant, which operates during the summer focusing on salmon, although some halibut is also run.) As a member community of the AEB, False Pass benefits from the borough-wide benefits that accompany BSAI crab landings and processing that occurs elsewhere in the borough, including landings and processing associated with the processing history derived from False Pass-based activities, but False Pass no longer benefits from the additional community-level public revenue and private sector business activity that used to accompany crab landings and processing (and related activities) within the community itself.

Port Moller

Port Moller is unique among Eligible Crab Communities on two accounts: it is not a year-round community and it is not an incorporated municipality (nor is it treated as a community by the U.S. Census, the Alaska Department of Community and Economic Development, or other data sources).

²⁴ This processing has apparently taken place at the King Cove shore plant, which is owned by Peter Pan Seafoods, the same firm that owned the BSAI crab processing history accrued on a floating processor then operating in False Pass (that is, the effective consolidation of False Pass affiliated processor quota into King Cove took place not only within the same borough, but also within the same processing operation).

Located within the AEB, it is the site of a Peter Pan Seafoods facility that processes salmon and only operates seasonally (May through September). The cannery was built in 1911 inside the Moller Bay sand spit and was operated for many years by Pacific American Fisheries; Port Moller also is the location of an ADFG office (Sepez et al. 2005). The local airport, previously known as Port Moller Air Force Station, is owned by the U.S. Department of the Interior, Bureau of Land Management. According to the Peter Pan Seafoods website,²⁵ and confirmed during 2010 interviews with Peter Pan Seafoods management in King Cove, 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. As an unincorporated community, Port Moller has never derived local tax benefits from processing in the community, including BSAI crab processing. As a seasonal industrial enclave, Port Moller is not considered to have experienced any adverse community/social impacts as a result of BSAI crab rationalization. BSAI crab processing history associated with the community, from which processor quota shares were derived, was accrued by two different firms that operated floating processors in Port Moller: Peter Pan Seafoods and Icicle Seafoods. It is assumed that the Peter Pan Seafoods processor quota shares originally affiliated with Port Moller are being processed at Peter Pan facilities elsewhere in the AEB (under the same circumstances as described for False Pass).

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 four vessels), during the 2009/2010 season no more than one vessel 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 for Washington vessels in the Bristol Bay red king crab fishery declined from 65.9 percent pre-rationalization to 62.8 percent post-rationalization. For the Bering Sea snow crab fishery, Washington vessels harvested approximately 64.5 percent of the total annual average harvest pre-rationalization and about 59.7 percent post-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

²⁵ <http://www.ppsf.com/facilities/index.aspx>, accessed 5/26/10.!!!!

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. As reported in the crab rationalization 3-year program review, most of the membership of the DSFU was from the Pacific Northwest, but targeted recruiting efforts in Unalaska/Dutch Harbor and Kodiak had specifically increased Alaska crab-related membership in then-recent years and the DSFU had become actively involved in crab crew issues before the NPFMC. According to more recent interview information, at present (2010) there have been between 50 and 60 associate members of the DSFU in the last couple of years, most of them from Seattle and the Pacific Northwest, but a "handful" of members are from Alaska, including individuals from Anchorage, Unalaska/Dutch Harbor, Homer, and Petersburg, among other communities. This is down considerably from the early years of crab rationalization, when there was a reported peak of approximately 200 associate members in the first fishing year under the rationalization program. Reportedly, however, most of those DSFU associate members lost their crew jobs through fleet consolidation, such that associate membership totals have been much lower in subsequent years. Since the time of the 3-year program review, the DSFU has continued to focus most of their effort with respect to BSAI crab on two issues: increasing the amount of crew share allocations such that the new shares would be available for purchase by eligible captains or crew members and helping to get a federal loan program in place that would be available to those captains and crew members who desire to purchase quota shares. While crab crew issues are most prominent in Kodiak, among Alaska communities, the DSFU reportedly has little presence among crew in that community due to other, locally based, crew organizations.

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 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 overall crew position losses with fleet consolidation and quota equity concerns, crew employment has been seen by at least some as less attractive post-rationalization than it was pre-rationalization for two primary reasons (as briefly described previously in some of the community summaries [and described in more detail in some of the community profiles in following sections]).

First, for the residents of at least some communities, longer seasons²⁶ make crab crewing less compatible with other fishing and nonfishing opportunities in the community that are considered by some as an important part of an integrated yet diversified employment and income strategy (which, in turn, is consistent with preferred family/social arrangements). This “employment pluralism” strategy may be seen as an adaptive approach to fishing (and nonfishing) employment and income opportunities that vary considerably over time based on both short- and long-term resource fluctuations (as well as political/economic fluctuations that, in turn, result in fluctuations in various employment-producing opportunities such as major construction project funding). This is especially true for small communities where alternative employment options are limited by small-scale, relatively undiversified economies and subsistence pursuits are of relatively high importance (for cultural as well as sustenance reasons), but it is also true for communities like Kodiak, where crew members may use economic returns from one fishery to capitalize relatively small-scale owner-operator participation in other fisheries, with seasonal (and multiseason) fluctuations again influencing changes in relative dependence on individual fisheries.^{27,28} Second, according to interview data, there has been a

²⁶ See Section 1.5.3 for a discussion of season lengths.

²⁷ An “income pluralism” strategy, if not an employment pluralism strategy, has also proven important over time for vessel owner/operators, particularly in communities with long-established commercial fishing traditions. The ability of vessel owners to move between commercial fisheries in response to both short- and long-term resource and economic fluctuations has been noted as an integral part of an adaptive approach to earning a living in a number of these communities for generations. There have been concerns expressed in at least some communities (such as King Cove and, perhaps to a lesser degree, Sand Point) that fishery management programs that may serve to limit this type of flexibility, such as crab rationalization, may not be in the long-term best interests of communities dependent on an established residential fleet that is proportionately large compared to other local economic sectors. This would appear to be particularly of concern in those communities that are neither CDQ

perceived decline in the ability of crew to make a relatively high financial return per day of fishing effort invested away from the community) due to a number of factors, including what are effectively seen as crew share decreases based on quota leasing practices.

These two concerns were noted as issues in the BSAI crab rationalization 3-year program review (2008) and they remain issues of concern at present (2010), with crew issues in general, and the crew compensation concerns specifically being particularly prominent in King Cove and Kodiak. At the time of the crab rationalization 3-year review, 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, was being compiled as part of a separate research effort through the Alaska Fisheries Science Center (Sepez, Lazrus, and Felthoven, n.d.) and preliminary results were presented to the NPFMC Scientific and Statistical Committee in 2008. This draft report documented a range of crew perceptions on these issues. Recently developed crew compensation information based on Crab Economic Data Reports and presented in Section 4.4 (Captains and Crew) in the main body of this crab rationalization 5-year program review would suggest that the crew compensation issue is quite complex. As noted in that discussion, while approaches to calculating crew compensation vary from vessel to vessel (e.g., how vessels deduct or charge expenses for acquired quota from crew compensation) and the percent of gross vessel revenues paid to crew in practice varies substantially between different fleet quartiles, the overall percent of gross vessel revenues paid to crew (including captain) has been declining across the fleet in post-rationalization years. The mean daily captain and crew pay post-rationalization, however, has not varied as much from pre-rationalization levels as might otherwise have been expected. In sum, this is a complex issue that remains a salient concern.

- 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, the fact that a number of the larger crab processors were already operating within an overall context that allowed crab processing to take place without bringing in dedicated crab crew (due to the ability to adjust crew assignments on the previously rationalized pollock fishery), and/or the changed nature of processing under a rationalized system. This would appear unchanged since the time of the 3-year program review and is discussed on an individual community and processor level in the detailed community profiles in Chapter 2.0.
- Concerns over changes in harvester and processor relationships appear to have mitigated at least to a degree by the arbitration system implemented under rationalization, as discussed elsewhere (Section 8.7.5 [Contract Arbitration] in the main body of this crab rationalization 5-year program review). This would also appear unchanged since the time of the 3-year program review.

communities nor sizable enough to support a large vessel fleet with greater effective fishing ranges (and therefore at least some greater degree of spatial adaptability).

²⁸ For additional information on the cultural role of commercial fishing, its articulation with subsistence pursuits, and social changes associated with limited access fishery programs in a contemporary Eastern Aleutian community (King Cove), see Reedy-Maschner (2010).

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- Community preclusion issues remain a concern for at least some communities, as was the case at the time of the 3-year program review, 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). The Adak situation has become more complex with the closure of the local plant in 2009, however, with the planned role of crab in future operations under new ownership unknown.
 - Crab rationalization remains a divisive issue within and between communities, as it was at the time of the 3-year program review. 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, even in some cases where there have been 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 substantially reduced. An indication of the continuing concern over the BSAI crab rationalization program (and other catch share type of programs) may be seen in the fact that in early 2010, the City of King Cove and the Kodiak Island Borough both sent letters, signed by their respective mayors, to the 111th U.S. House Committee on Natural Resources, Subcommittee on Insular Affairs, Oceans and Wildlife, registering their concerns regarding new catch share policies then being developed and reporting damage to their local economies and local residents as the result of implementation of the halibut and sablefish and the BSAI crab catch share programs.

1.5 LARGER FISHERY AND ECONOMIC TRENDS

Several larger fishery and economic trends also have the potential to influence the way that crab rationalization impacts may be felt in various communities. These include, among others, the engagement of crab vessels in other fisheries, longer term trends of changing local fleet sizes, changes in season lengths before and after rationalization, and the ongoing national recession. These are each, in turn, discussed briefly in this section.

1.5.1 Engagement of Crab Vessels in other Fisheries

In this crab rationalization 5-year program review social impact assessment, data from vessels fishing for BSAI crab species that were included in the rationalization program in any season from 1998 through 2010/2011 are used to characterize pre-rationalization conditions and post-rationalization changes. After rationalization (2005) a number of these vessels stopped fishing for the rationalized crab species. Some of the vessels that stopped fishing for rationalized crab stayed active in other fisheries and continued to participate in the economy of coastal communities, while others discontinued fishing entirely. Tables A1-12a, A1-12b, and A1-12c in Attachment 1 provide detailed information on the level of activities of two categories of crab vessels: “crab vessels in rationalized fisheries after 2004” (those vessels that fished at least one species of rationalized crab during at least one season 2005/2006 through 2009/2010) and “crab vessels not in rationalized fisheries after 2004” (those vessels that did not fish any species of rationalized crab during any season 2005/2006 and 2009/2010), as measured by value of harvest

of crab, other species, and all (crab and non-crab) species, by year (and community, where possible). Summary tables are presented in this section.

Table 1-12a provides information on these two categories of crab vessels, contrasting pre-rationalization averages per vessel with post-rationalization averages per vessel by geography. Not surprisingly, vessels active in the crab fisheries post-rationalization increased their annual average value in crab post-rationalization compared to pre-rationalization, and they also increased their average annual value for non-crab species. For vessels not participating in the crab fisheries after 2004, crab values dropped to zero post-rationalization, but values for non-crab species went up substantially for all geographies shown, with non-crab species annual average values post-rationalization exceeding average annual values of crab and non-crab species combined during the pre-rationalization period. As these are averages per vessel, these figures do not take into consideration total fishery values for each geography.

Table 1-12b provides total annual average value by geography for all crab vessels combined for the pre-rationalization period and the post-rationalization period (as opposed to annual average value per vessel) for these two categories of vessels. As shown in this table, the post-rationalization total for both categories of vessels combined exceeds the pre-rationalization annual average total for both categories of vessels combined for all areas except for Washington state exclusive of the Seattle-Tacoma consolidated metropolitan statistical area.

Table 1-12c expresses the information contained in Table 1-12b as percentages rather than as absolute numbers. This allows for relatively easy comparison of proportional values of these two vessel categories.

1.5.2 Alaska Local Fleet Sizes

While crab fleet consolidation has been an issue for a number of different direct and indirect reasons as noted in the community summaries above (and the detailed community profiles below [as well as those included by reference, noted earlier]), this consolidation has occurred during a time when Alaska community fleets in general have been getting smaller. As shown in Table 1-13, the local fleets in seven of the eight Alaska crab communities profiled in the pre-rationalization social impact assessment were smaller, and in many cases much smaller in 2004 (the last full year prior to crab rationalization) than they were in 1995 (the earliest year in the data shown). This time span encompasses a number of different changes that were occurring in other fisheries, such as the implementation of the halibut and sablefish IFQ programs and inshore/offshore and AFA-related programs in the pollock fishery, that directly or indirectly led to fleet consolidation. The only community among the eight profiled that did not see fleet consolidation over this period was Adak, which was still a military community at the start of the period and whose local fleet grew from no vessels to seven by 2004.

Since the 2005, the first year of crab rationalization, through 2009 (the most recent year for which data are available) the downward trend of local fleets has continued for six of the seven communities previously experiencing fleet declines (Akutan's small fleet grew slightly over this time period), and a downward trend for local vessels was seen for the first time in Adak. It is important to note, however, that crab rationalization did not originate this downward trend, nor did it contribute to the continuing downward trend in every community, as noted in the community summaries and detailed community profiles. Crab rationalization did, however,

Table 1-12a. Comparison of Harvests of BSAI Crab Vessels* Participating and Not Participating in Rationalized Crab Fisheries Post-2005, Average Annual Values per Vessel by Geography Pre-Rationalization (1998–2004) and Post-Rationalization (2006–2009)

Area	Period	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
		Number of Vessels	Rationalized Crab (Average Value)	Other Species (Average Value)	All Species (Average Value)	Number of Vessels	Rationalized Crab (Average Value)	Other Species (Average Value)	All Species (Average Value)	Number of Vessels	All Species (Average Value)
Kodiak	Pre-Rationalization	23.9	\$659,091	\$297,487	\$956,577	16.0	\$158,258	\$534,811	\$693,070	39.9	\$850,796
	Post-Rationalization	15.0	\$1,240,488	\$362,524	\$1,603,012	12.0	\$0	\$985,771	\$985,771	27.0	\$1,328,682
Other Alaska (non-Kodiak)	Pre-Rationalization	24.7	\$514,398	\$144,945	\$659,344	10.1	\$339,402	\$275,329	\$614,731	34.9	\$646,362
	Post-Rationalization	16.8	\$1,428,195	\$210,002	\$1,638,197	5.5	\$0	\$836,732	\$836,732	22.3	\$1,440,082
Alaska Total	Pre-Rationalization	48.6	\$585,468	\$219,870	\$805,338	26.1	\$228,538	\$434,138	\$662,676	74.7	\$755,420
	Post-Rationalization	31.8	\$1,339,514	\$282,060	\$1,621,574	17.5	\$0	\$938,930	\$938,930	49.3	\$1,379,010
Seattle-Tacoma CMSA	Pre-Rationalization	101.1	\$647,382	\$259,926	\$907,308	51.6	\$334,341	\$876,745	\$1,211,086	152.7	\$1,009,894
	Post-Rationalization	61.8	\$1,376,670	\$4,565,301	\$1,949,643	28.8	\$0	\$2,151,497	\$2,151,497	90.5	\$2,013,768
Other Washington (non-S-T CMSA)	Pre-Rationalization	12.1	\$481,275	\$115,285	\$596,560	6.0	\$492,676	\$206,803	\$699,479	18.1	\$630,596
	Post-Rationalization	7.5	\$831,354	\$475,961	\$1,307,315	0.0	\$0	\$0	\$0	7.5	\$1,307,315
Washington Total	Pre-Rationalization	113.3	\$629,577	\$244,422	\$874,000	57.6	\$350,842	\$806,924	\$1,157,767	170.9	\$969,617
	Post-Rationalization	69.3	\$1,317,610	\$562,466	\$1,880,076	28.8	\$0	\$2,151,497	\$2,151,497	98.0	\$1,959,702
Oregon and Other U.S.	Pre-Rationalization	17.3	\$638,566	\$337,620	\$976,185	12.1	\$551,004	\$618,376	\$1,169,381	29.4	\$1,055,902
	Post-Rationalization	13.5	\$1,454,088	\$535,382	\$1,989,470	5.8	\$0	\$1,748,406	\$1,748,406	19.3	\$1,917,464
All States Total	Pre-Rationalization	179.1	\$618,485	\$246,758	\$865,243	95.9	\$342,843	\$681,371	\$1,024,213	275.0	\$920,656
	Post-Rationalization	114.5	\$1,339,775	\$481,518	\$1,821,293	52.0	\$0	\$1,698,849	\$1,698,849	166.5	\$1,783,053

*Includes any vessel listed as fishing over the period 1998–2004 for crab species that were later rationalized.

Note: Since 2005 was a transition year, pre- and post-rationalization averages do not include 2005.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

Table 1-12b. Comparison of Harvests of BSAI Crab Vessels* Participating and Not Participating in Rationalized Crab Fisheries Post-2005, Average Annual Value for All Vessels Combined by Geography Pre-Rationalization (1998–2004) and Post-Rationalization (2006–2009)

Area	Period	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
		Number of Vessels	Rationalized Crab (Average Value)	Other Species (Average Value)	All Species (Average Value)	Number of Vessels	Rationalized Crab (Average Value)	Other Species (Average Value)	All Species (Average Value)	Number of Vessels	All Species (Average Value)
Kodiak	Pre-Rationalization	23.9	\$15,724,018	\$7,097,183	\$22,821,201	16.0	\$2,532,134	\$8,556,981	\$11,089,114	39.9	\$33,910,316
	Post-Rationalization	15.0	\$18,607,322	\$5,437,856	\$24,045,178	12.0	\$0	\$11,829,246	\$11,829,246	27.0	\$35,874,424
Other Alaska (non-Kodiak)	Pre-Rationalization	24.7	\$12,712,986	\$3,582,223	\$16,295,210	10.1	\$3,442,504	\$2,792,622	\$6,235,127	34.9	\$22,530,336
	Post-Rationalization	16.8	\$23,922,261	\$3,517,537	\$27,439,798	5.5	\$0	\$4,602,027	\$4,602,027	22.3	\$32,041,825
Alaska Total	Pre-Rationalization	48.6	\$28,437,004	\$10,679,407	\$39,116,411	26.1	\$5,974,638	\$11,349,603	\$17,324,241	74.7	\$56,440,652
	Post-Rationalization	31.8	\$42,529,583	\$8,955,393	\$51,484,976	17.5	\$0	\$16,431,273	\$16,431,273	49.3	\$67,916,249
Seattle-Tacoma CMSA	Pre-Rationalization	101.1	\$65,478,084	\$26,289,677	\$91,767,760	51.6	\$17,242,450	\$45,214,974	\$62,457,424	152.7	\$154,225,184
	Post-Rationalization	61.8	\$85,009,343	\$35,381,083	\$120,390,426	28.8	\$0	\$61,855,535	\$61,855,535	90.5	\$182,245,961
Other Washington (non-S-T CMSA)	Pre-Rationalization	12.1	\$5,844,053	\$1,399,889	\$7,243,942	6.0	\$2,956,054	\$1,240,819	\$4,196,872	18.1	\$11,440,814
	Post-Rationalization	7.5	\$6,235,151	\$3,569,708	\$9,804,860	0.0	\$0	\$0	\$0	7.5	\$9,804,860
Washington Total	Pre-Rationalization	113.3	\$71,322,136	\$27,689,566	\$99,011,702	57.6	\$20,198,503	\$46,455,792	\$66,654,296	170.9	\$165,665,998
	Post-Rationalization	69.3	\$91,244,494	\$38,950,792	\$130,195,286	28.8	\$0	\$61,855,535	\$61,855,535	98.0	\$192,050,821
Oregon and Other U.S.	Pre-Rationalization	17.3	\$11,038,065	\$5,835,995	\$16,874,060	12.1	\$6,690,767	\$7,508,854	\$14,199,621	29.4	\$31,073,681
	Post-Rationalization	13.5	\$19,630,191	\$7,227,652	\$26,857,843	5.8	\$0	\$10,053,335	\$10,053,335	19.3	\$36,911,178
All States Total	Pre-Rationalization	179.1	\$110,797,206	\$44,204,967	\$155,002,173	95.9	\$32,863,909	\$65,314,249	\$98,178,158	275.0	\$253,180,331
	Post-Rationalization	114.5	\$153,404,269	\$55,133,837	\$208,538,105	52.0	\$0	\$88,340,143	\$88,340,143	166.5	\$296,878,248

*Includes any vessel listed as fishing over the period 1998–2004 for crab species that were later rationalized.

Note: Since 2005 was a transition year, pre- and post-rationalization averages do not include 2005.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

Table 1-12c. Comparison of Harvests of BSAI Crab Vessels* Participating and Not Participating in Rationalized Crab Fisheries Post-2005, Average Annual Value (Percentage) for All Vessels Combined by Geography Pre-Rationalization (1998–2004) and Post-Rationalization (2006–2009)

Area	Period	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
		Number of Vessels	Rationalized Crab (Average Value)	Other Species (Average Value)	All Species (Average Value)	Number of Vessels	Rationalized Crab (Average Value)	Other Species (Average Value)	All Species (Average Value)	Number of Vessels	All Species (Average Value)
Kodiak	Pre-Rationalization	59.9%	46.4%	20.9%	67.3%	40.1%	7.5%	25.2%	32.7%	100.0%	100.0%
	Post-Rationalization	55.6%	51.9%	15.2%	67.0%	44.4%	0.0%	33.0%	33.0%	100.0%	100.0%
Other Alaska (non-Kodiak)	Pre-Rationalization	70.9%	56.4%	15.9%	72.3%	29.1%	15.3%	12.4%	27.7%	100.0%	100.0%
	Post-Rationalization	75.3%	74.7%	11.0%	85.6%	24.7%	0.0%	14.4%	14.4%	100.0%	100.0%
<i>Alaska Total</i>	<i>Pre-Rationalization</i>	65.0%	50.4%	18.9%	69.3%	35.0%	10.6%	20.1%	30.7%	100.0%	100.0%
	<i>Post-Rationalization</i>	64.5%	62.6%	13.2%	75.8%	35.5%	0.0%	24.2%	24.2%	100.0%	100.0%
Seattle-Tacoma CMSA	Pre-Rationalization	66.2%	42.5%	17.0%	59.5%	33.8%	11.2%	29.3%	40.5%	100.0%	100.0%
	Post-Rationalization	68.2%	46.6%	19.4%	66.1%	31.8%	0.0%	33.9%	33.9%	100.0%	100.0%
Other Washington (non-S-T CMSA)	Pre-Rationalization	66.9%	51.1%	12.2%	63.3%	33.1%	25.8%	10.8%	36.7%	100.0%	100.0%
	Post-Rationalization	100.0%	63.6%	36.4%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
<i>Washington Total</i>	<i>Pre-Rationalization</i>	66.3%	43.1%	16.7%	59.8%	33.7%	12.2%	28.0%	40.2%	100.0%	100.0%
	<i>Post-Rationalization</i>	70.7%	47.5%	20.3%	67.8%	29.3%	0.0%	32.2%	32.2%	100.0%	100.0%
<i>Oregon and Other U.S.</i>	<i>Pre-Rationalization</i>	58.7%	35.5%	18.8%	54.3%	41.3%	21.5%	24.2%	45.7%	100.0%	100.0%
	<i>Post-Rationalization</i>	70.1%	53.2%	19.6%	72.8%	29.9%	0.0%	27.2%	27.2%	100.0%	100.0%
All States Total	Pre-Rationalization	65.1%	43.8%	17.5%	61.2%	34.9%	13.0%	25.8%	38.8%	100.0%	100.0%
	Post-Rationalization	68.8%	51.7%	18.6%	70.2%	31.2%	0.0%	29.8%	29.8%	100.0%	100.0%

*Includes any vessel listed as fishing over the period 1998–2004 for crab species that were later rationalized.

Note: Since 2005 was a transition year, pre- and post-rationalization averages do not include 2005.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

Table 1-13. Total Number of Local Commercial Fishing Vessels by Community by Year (All Fisheries), 1995–2009

Community	Year														
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Adak						2	4	3	3	7	6	6	4	2	2
Akutan	6	5	7	5	8	6	6	6	5	4	6	4	4	7	6
King Cove	134	130	126	119	111	104	90	80	79	77	75	77	63	69	67
Kodiak	743	723	743	698	699	711	655	604	582	575	523	483	477	469	452
St. George	12	10	12	12	12	11	11	14	7	6	3	3	3	5	8
St. Paul	29	31	27	29	27	28	27	25	24	16	15	16	17	17	19
Sand Point	250	242	232	232	227	229	218	192	169	163	155	145	143	135	146
Unalaska	72	64	62	53	48	44	45	44	38	55	53	40	43	21	21

Source: CFEC 2010.

contribute to this trend in several other communities, also as noted in the community summaries and detailed community profiles.

With the overall decline in local fleets before and after crab rationalization, a number of support service businesses in several 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 size of the incremental impact caused by the consolidation of the crab fleet on any particular support service business has depended on a number of factors, including the nature of engagement and dependency on the crab fishery.

1.5.3 Season Lengths and Average Days Fished per Vessel

Season lengths have changed considerably in the Bristol Bay red king crab fishery and the Bering Sea snow crab fishery before and after rationalization. During the period 1998 through 2004 (before rationalization), Bristol Bay red king crab seasons lasted between 3 and 5 days. During the period 1998 through 2005 (before rationalization), Bering Sea snow crab seasons lasted between 6 and 66 days, and if the very high years of 1998 and 1999 are excluded, Bering Sea snow crab seasons lasted between 6 and 30 days in the years leading up to rationalization.

With the implementation of rationalization, crab seasons took on a different meaning and were, in theory, quite open-ended. A number of factors, however, served to limit the number of days per season any particular vessel fished. Table 1-14 shows the average number of fishing days per season per vessel for the Bristol Bay red king crab fishery and for the Bering Sea snow crab fishery from 1998 through 2009/2010. As shown, the average number of days fished per season per vessel post-rationalization varied by community of ownership of the vessel. Overall, however, Bristol Bay red king crab average days fished per season has varied between 19.4 days and 25.8 days. This does not, however, account for yard work and other days of work for the vessel before the individual vessel's fishing begins and after the individual vessel's fishing ends, but it does give a sense of scale for the effective seasons of the vessels. For the Bering Sea snow crab fishery, the average number of days fished per post-rationalization season for the overall fleet has varied between 27.7 and 39.4 days, although there is variation by community of vessel ownership, and the same data interpretation caveats as described for Bristol Bay red king crab also apply for the Bering Sea snow crab fishery.

1.5.4 National Recession

Since the crab rationalization 3-year program review, the economy of the United States, along with a number of other countries around the world, experienced a sharp decline in gross domestic product (GDP), leading to a protracted economic recession. This economic downturn may be expected to confound socioeconomic impacts associated with the BSAI crab rationalization program by creating its own economic and social changes in crab communities.

A number of economic information sources generally agree that the recession (in the United States) began in December 2007 and ended in June of 2009 (Schaefer 2010). However, the New York Stock Exchange drop that occurred throughout the month of October 2008 signaled the beginning of a greater-than-normal recession to many people. Combined with a housing market that was experiencing challenges due to a number of major mortgage lenders either requesting federal assistance or outright collapsing; a tightening of the credit market; and the failure of a

Table 1-14. Average Days Fishing Days per Season per Vessel, Bristol Bay Red King Crab and Bering Sea Snow Crab Fisheries, 1998 through 2009/2010

Community	Year												
	1998	1999	2000	2001	2002	2003	2004	2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
Bristol Bay Red Crab													
Kodiak	5	5	4	3	3	5	3	--	16.8	16.0	28.7	34.0	31.6
Other Alaska	5	5	4	3	3	5	3	--	26.3	16.6	30.5	25.7	18.8
All Alaska	5	5	4	3	3	5	3	--	21.1	16.3	29.6	30.0	25.5
Seattle-Tacoma CMSA	5	5	4	3	3	5	3	--	18.6	15.4	21.7	24.5	23.8
Other Washington	5	5	4	3	3	5	3	--	25.3	13.8	20.2	22.4	22.3
All Washington	5	5	4	3	3	5	3	--	19.5	15.2	21.6	24.3	23.6
Other U.S.	5	5	4	3	3	5	3	--	14.7	15.7	21.4	23.7	17.1
All States	5	5	4	3	3	5	3	--	19.4	15.6	23.8	25.8	23.3
Bering Sea Snow Crab													
Kodiak	64	66	7	30	24	9	8	6	24.8	23.7	48.7	47.9	31.0
Other Alaska	64	66	7	30	24	9	8	6	34.3	37.0	42.3	49.6	43.7
All Alaska	64	66	7	30	24	9	8	6	29.7	30.0	45.2	48.7	37.0
Seattle-Tacoma CMSA	64	66	7	30	24	9	8	6	32.1	26.0	35.6	37.3	41.1
Other Washington	64	66	7	30	24	9	8	6	48.8	26.7	34.5	38.0	32.0
All Washington	64	66	7	30	24	9	8	6	33.6	26.1	35.5	37.3	40.6
Other U.S.	64	66	7	30	24	9	8	6	29.3	31.3	37.1	29.6	31.6
All States	64	66	7	30	24	9	8	6	32.0	27.7	38.4	39.4	38.6

Note: For 1998 through 2004, it is assumed that all vessels fished the entire open season in each fishery. For 2005/2006 through 2009/2010, the date when fishing began for an individual vessel was used as that vessel's season starting date and the date fishing ended for that vessel was used as that vessel's season ending date. The number of days per season for an individual vessel includes non-fishing days between that vessel's season starting and ending dates, but does not include yard work and transit time before the fishing starting date or after the fishing ending date.

Source: NPFMC 2010.

number of high-profile lending, commercial, and industrial businesses, this sharp drop in the market led to massive stock market sell-offs. As the economy worsened, unemployment rose dramatically throughout much of the United States, but had already been creeping up before the large market downturn. Unemployment began to rise in the Midwest and parts of the South in mid-2008, eventually spreading to most regions by January 2009 (Slate 2010). By November, 2010 (the time of this writing), well after the technical end of the recession, nationwide unemployment was still 9.6 percent, up from 6.1 percent in August 2008 (NPR 2010). Labeled “The Great Recession” by some news agencies and others, this economic downturn is generally referred to in this crab rationalization 5-year program review social impact assessment as the “ongoing nationwide recession.” The “ongoing” label is used because many people interviewed as part of this project referred to the recession in a manner that suggested that they believed it was still occurring and influencing behaviors that were resulting in at least indirect impacts in some of the crab communities.

Compared to the rest of the nation, Alaska weathered the recession well. In November 2008, Alaska was singled out as the only state with an expanding economy, while the other 49 were either identified as “in recession” or “at risk” of falling into a recession (Mayerowitz 2008). The main reasons provided for Alaska’s success is its economic reliance on natural resources (fishing, oil, and mining) and government jobs, which provided relative stability. Fish prices stayed high throughout the downturn, the state salmon runs were strong, oil revenues sharply increased (helping fund state and local government operations), and the mining industry experienced a small boom due to high price in gold because of economic uncertainty elsewhere in the world (Forgey 2010). The unemployment rate in Alaska was consistently below the national average. However, by May 2009, the economy of Alaska lost 4,100 jobs, which was the state’s first month of job loss since the nationwide recession began. The downward trend only lasted a handful of months, and by January 2010, the state had added over 4,000 jobs and growth resumed (Holland 2010).

A number of Alaskan residents interviewed as part of this project noted that the recession that had hit the Lower 48 hard had made very little direct impact on the local economy of their coastal communities, as ex-vessel prices had stayed high and state and federal construction projects had continued. Indirect impacts, however, were noted. For example, many interviewees suggested that tourism had decreased (particularly in St. Paul and Kodiak) as a result of the recession as clients and potential clients felt the economic pinch. A number of Alaska businesses whose customers included businesses in the Lower 48, including fishing vessels based in the Lower 48, also suggested that the Alaska expenditure patterns of these businesses were also influenced by the recession. A number of these comments are noted in the detailed community profiles included in the next section.

Economic information for most of the Alaska coastal communities engaged in the crab fishery is not available on a detailed enough scale to allow for close documentation of the presence or absence of local recession-related impacts. One exception to this generalization is Kodiak, and an example of how resilient the Alaskan economy was with regard to the recession may be seen in the detailed gross receipt information provided by the City of Kodiak for 2006 through 2010 that shows the overall trends of the larger, more diversified economy present on the island. For many business types, slight decreases were seen in 2009 business compared to totals in 2008 and 2010, but 2009 totals were generally higher than totals in 2006 or 2007, suggesting an overall upward trend in the economy over the 5 years provided. Even for those sectors hit hard by the

recession elsewhere in the country, specifically construction and manufacturing, overall upward trends may be noted. Kodiak 2009 totals for construction were \$7 million more than 2008 totals. Kodiak 2009 totals for manufacturing were approximately \$40,000 less than 2008, but 2010 totals were approximately \$40,000 more than 2008 levels, again suggesting overall upward growth. Retail trade, on the other hand, was clearly much lower in 2009 (\$24 million) than in 2008 (\$36 million), reinforcing the observation that retail activity was much slower, likely due at least to some degree to indirect impacts from the Lower 48, but most other business types exhibit total gross receipts in 2009 within the natural variation seen between 2006 and 2010. Some industries, specifically real estate, which suffered elsewhere in nation, show their highest Kodiak total in 2009 compared to all other years in the range of data provided.

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 detailed community-level analysis was a subset of the eight Alaskan communities characterized in the preimplementation crab rationalization social impact assessment (NOAA 2004, Appendix 3) as well as in the BSAI crab rationalization 3-year program review itself (NPFMC 2008, Appendix A) or in a companion document (EDAW 2008) incorporated by reference into the 3-year program review. The subset consists of Unalaska/Dutch Harbor, St. Paul, King Cove, and Kodiak. The profiles of Akutan, Sand Point, Adak, and St. George, each among the eight communities included in the earlier BSAI crab rationalization social impact assessment analyses, have not been updated in the same manner, although selected information for those communities has been updated and included in the overall BSAI crab rationalization 5-year program review social impact assessment, as noted 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, St. Paul, King Cove, and Kodiak. As noted in Chapter 1, earlier produced community profiles contained in the BSAI crab rationalization program 3-year review social impact assessment (NPFMC 2008, Appendix A) provide the building blocks for this effort for the communities of Unalaska/Dutch Harbor, King Cove, and Kodiak, while the profile of St. Paul builds upon the profile contained in *Comprehensive Baseline Commercial Fishing Community Engagement and Dependency Profiles: Adak, St. George, St. Paul, and Sand Point, Alaska* (EDAW 2008) that was incorporated by reference into the 3-year program review social impact assessment.

The updates contained in this document follow the organizational structure of these earlier profiles, which, in turn, built upon the preimplementation crab rationalization social impact assessment (NOAA 2004, Appendix 3). Brief fieldwork was conducted in three of these communities as part of the update process. In-person interviews took place in Unalaska/Dutch Harbor during September 26–October 1, 2010. Fieldwork in King Cove took place May 18–22, 2010, while fieldwork in Kodiak took place May 12–17, 2010. Phone contacts and an exchange of written correspondence with entities from each of the communities occurred both before and after fieldwork. In general, field efforts focused on two major undertakings. First was recontacting entities interviewed during pre-rationalization social impact assessment work and the 3-year program review process to provide a framework for direct pre- and post-rationalization comparisons (at two points in time) 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. In the case of St. Paul, information for updating the community profile was gathered through a combination of telephone calls and written correspondence alone and not supplemented with direct fieldwork as was the case in the other three communities profiled in this section. Most of the telephone contacts and exchange of written correspondence with St. Paul entities took place in September and October 2010.

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 degrees Fahrenheit (°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 were 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.²⁹ 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 2009. 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.

²⁹ 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, 1990–2009

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
2007	3,678
2008	3,551
2009	3,662

*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 and September 2010.

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.

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) based on observer data. Employment on catcher vessels has been estimated using crew-size factors for each vessel class, which are 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 eight primarily surimi-oriented vessels with an average crew size of 108 and nine primarily fillet-oriented vessels with an average crew size of 79.

⁴ Includes seven catcher processors with 2006/2007 BSAI federal crab catcher processor permits, and one additional catcher processor with groundfish landings only.

Note also that this 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).

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. 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. They do not 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,³⁰ but they are analytically useful

³⁰ 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 is found in the southwest region of Alaska and these workers 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.

where they conform to specific orientations toward the community that serve to shape community politics, development objectives, community perception, etc. While distinctions are often drawn between the processing-associated population in the community and other residents of the community, several persons interviewed were quick to point out that a number of those in management positions at the processing plants are active in the community in leadership roles, and that a number of other leaders in the community who currently hold positions in 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.³¹ 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

³¹ 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 Hawaiian 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.

Natives, including Aleuts, accounted for 15 percent of the population; by 1990, Aleuts comprised only 7 percent of the total community population (with Alaska Natives as a whole accounting for 8 percent of the population). Overall representation was similar in 2000. This population shift is largely attributable to fisheries and fisheries-related economic development and associated immigration. The fact that there is a “core” Aleut population of the community with a historical continuity to the past also has implications for contemporary fishery management issues. These include the activities of the Unalaska Native Fisherman’s Association and active local involvement in the regional Community Development Quota (CDQ) program (although Unalaska itself is not a CDQ community). 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 the crab rationalization 3-year program review (2008), and housing remains in short supply at present (2010).

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 nonlifetime 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 2010, 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.³² 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

³² The community of Unalaska still does, however, rank behind a number of other major Alaska communities in population to enrollment ratios. Using October 2009 average daily membership and the 2008 Alaska Department of Community and Economic Development certified population figures (3,551 residents), Unalaska has a population to enrollment ratio of almost 9:1 (8.81:1). By way of comparison, Anchorage, Cordova, Craig, Dillingham, Kodiak, and Yakutat all have ratios less than 6:1, and Bristol Bay, Kenai, and Valdez have ratios under 7:1. If Unalaska were to match even the highest individual ratio among these other comparison communities (Valdez at 6.70:1), Unalaska school enrollment would be at approximately 530 rather than 403. 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 1978–2010**

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
FY 2009	402
FY 2010	403

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; personal communication September 2010.

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, with 2009 and 2010 figures returning to 2004 and 2005 levels. While school counts in general are relatively stable for the most recent 8 years (2003 to 2010), according to school administrators, there is still quite a bit of 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 any given

year, attendance also varies based on fishery cycles to the 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. The school does have a more stringent, formal absence policy for high school students than for students in lower grades, which apparently does, however, influence these types of absences, at least to some degree. 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 revenues, not including special appropriations from the city that total an additional \$867,000 in fiscal year (FY) 2011.

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 2006³³ school years and shown in Table 2.1-7. Information shown is for the parent designated as the "primary wage earner."³⁴ 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 2010 enrolled students vary somewhat from the general population as gauged by the 2000 census. Asian/Pacific Islander individuals were a larger component of the school enrollment than of the general population (41.5 versus 31.2 percent, respectively), and this representation has grown in recent years. Alaska

³³ The 2006 study is the most recent available at present (2010). According to school staff, these studies are not carried out on a regularly scheduled basis, rather, they are undertaken only in response to specific requests by the city to do so.

³⁴ The school did track employment for both parents for the 2004 school year, but has not done so for other years.

Native/American Indian individuals made up 16.2 percent of the school population, but only about 7.7 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). Hispanic representation was virtually equal in the school and general populations (12.8 versus 12.9 percent, respectively). White, Black/African American, and Other census categories, on the other hand, are more strongly represented in the general population than in the school population (with white individuals making up 29.2 percent of the school population and 44.2 percent of the total population), suggesting disproportionate single-person (as opposed to family) labor-related migration into the community and/or an aging population in comparison other population groups. As of FY 2010, 42 percent of the school’s students were classified as having “limited English proficiency.”³⁵ 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.

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

³⁵ 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.

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.

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 the non-group quarters housing). Although demographic categories changed somewhat between the 1990 and 2000 census, some relatively large changes 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 multiunit 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 multifamily 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, 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. A residential housing rent survey completed for the city in 2007 (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 (for the crab rationalization 3-year program review), would indicate that any softening of the housing market associated with earlier (AFA) fishery

rationalization efforts had 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 relatively 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 at that time had discontinued holding long-term housing leases, which formerly was a common practice due to the local housing shortage. During 2010 field interviews, however, the city was engaged in building housing that would be occupied by city workers, as the tight housing market was perceived as an impediment to recruiting and retaining workers from outside of the community. Further, while company housing in general may be less common than in the past, it is still relatively common in the community, especially for larger companies that anticipate a measure of turnover in their Unalaska operations.

In August 2010, the city prepared a review draft Housing Plan as a part of its Comprehensive Plan 2020. According to this draft plan, both the population and the number of housing units had declined in recent years, with the population declining at a greater rate, but adequate housing is still in short supply. The report also notes that Unalaska has an estimated home ownership rate of about 22 percent compared to an estimated rate for the state of Alaska of about 64 percent, with Unalaska's relatively low rate being partially attributed to a large number of seasonal employees and employer-provided rental housing units. The report further notes that current (2010) high occupancy rates may be seen relative to the portion of the housing stock managed by several housing providers:

- The Aleutian Housing Authority manages or is a partner in 80 lower income housing units in the city. Of these units, 98 percent are occupied, including 100 percent of the 65 family units and 87 percent of the units in a senior housing project.
- The Ounalashka Corporation leases 38 housing units, including eight units leased to the Unalaska City School District. Of the 38 units, all but one (97 percent) are occupied.
- Unisea rents 29 housing units within the city, all of which are occupied.
- Alyeska has five apartment-style buildings in the community in addition to its bunkhouses. All of the apartments are occupied.
- The City of Unalaska manages 20 housing units, including five units leased to the Unalaska City School District. All of these units are occupied except for seven trailers that are considered uninhabitable and will be removed.

In short, the 2010 draft Housing Plan concludes that Unalaska has a demand and a need for more housing, both for owner and rental occupancy. According to the report, "Virtually every 'livable' housing unit in the City of Unalaska is occupied. Further, many housing units in the City in substandard condition are occupied."

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 Households	Average Persons per Household	Median Household Income	Family Households	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 farther 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 2010 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 2009. 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 through 1999.³⁶ In 2000, Unalaska dropped to second in value of landings behind New Bedford, Massachusetts, and has remained there in the subsequent years.³⁷

³⁶ 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), for example, more than doubled Unalaska/Dutch Harbor's total for that same year (WPRFMC 1999).

³⁷ In 2009, New Bedford value of landings totaled \$249.2 million on a much lower volume (170.0 million pounds) than landed in Unalaska.

Table 2.1-12. Bering Sea/Aleutian Islands Major Fisheries Openings, 2010

Species	Opening
Eastern Aleutians Bairdi Tanner Crab	January 15
Opilio Tanner Crab	October 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
Food/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 20
Pollock Mothership 'A'	January 20
Pollock Mothership 'B'	June 10
Atka Mackerel Eastern 'A'	January 20
Atka Mackerel Eastern 'B'	September 1
Atka Mackerel Central 'A'	January 20
Atka Mackerel Central 'B'	September 1
Atka Mackerel Western 'A'	January 20
Aka Mackerel 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 brochure, 2010.

Table 2.1-13. Volume and Value of Fish Landed at Unalaska, 1977–2009

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
2007	777.1	1	174.1	2	0.22
2008	612.7	1	195.0	2	0.32
2009	506.3	1	159.7	2	0.32

*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; 10/6/10 through NMFS Website <http://www.st.nmfs.noaa.gov/st1/commercial/index.html>).

The commercial fishery/seafood industry provides a very large component of the employment base in Unalaska. According to the City of Unalaska, as cited in the crab rationalization 3-year program review, 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) were added, along with firms primarily dependent upon the fisheries, such as stevedoring (including Pacific Stevedoring and Dutch Harbor Services) and shipping (American President Lines [APL], among

Table 2.1-14. Unalaska Principal Employers, 2000, 2006, and 2009

Employer	2000			2006			2009	
	Number of Employees	Rank	Percentage of Total City Employment	Number of Employees	Rank	Percentage of Total City Employment	Range: Number of Employees*	Rank
Unisea, Inc.	688	1	29%	819	1	26%	800–999	1
Westward Seafoods, Inc.	349	2	15%	665	2	21%	500–799	2
Alyeska Seafoods, Inc.	194	3	8%	229	3	7%	200–499	3
City of Unalaska	162	5	7%	178	4	6%	100–199	4
Pacific Stevedoring, Inc.				80	5	3%	50–99	5
Harbor Crown Seafoods, Inc.				78	6	3%		
American President Lines, Ltd.	61	9	3%	75	7	2%	50–99	6
Unalaska City School	68	8	3%	73	8	2%	50–99	7
Safeway, dba Eagle Quality Centers				51	9	2%	25–49	8
Dutch Harbor Services, Inc.				48	10	2%	25–49	9
Petro Star, Inc. dba North Pacific Fuel	182	4	8%				25–49	10
Western Pioneer, dba Alaska Ship Supply	100	6	4%					
Royal Aleutian Seafood	89	7	4%					
Western Power and Equipment	33	10	1%					
Total, top 10 employers	1,926	--	82%	2,296	--	74%	--	--
Total City Employment	2,363	--	100%	3,103	--	100%	3,002	--

Note: dba = doing business as

*Unlike previous years, the Alaska Department of Labor cannot give an exact number of employees due to changes in federal regulations.

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, and City of Unalaska Finance Department spreadsheet, 2010, for 2009 figures, also based on Alaska Department of Labor data. Total city employment figure for 2006 calculated off percentage figure for top 10 employers.

others), the dependency of Unalaska employment on the fishing industry was even more apparent. By 2009, the most recent year for which similar data are available, federal regulations changed such that specific numbers of employees by employer are no longer available, limiting at least some comparisons with earlier years. As shown in Table 2.1-14, the only change in the ranking of top 10 employers between 2006 and 2009 was Harbor Crown Seafoods (ranked number six in 2006) dropping off the list, with employers ranked below Harbor Crown Seafoods moving up one ranking (and North Pacific Fuel joining the list in the number 10 slot).

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. At present (2010), of the seven combined mayor and city council positions, two are filled by individuals who are employed by shipping firms dependent on the fishing industry (one of whom also has direct ties to a fishing sector firm), and one is filled by a support service business owner largely reliant on the fishing fleet. None of these positions are filled by individuals directly affiliated with local shore processing companies as has been common in recent years, but at least three of the individuals filling these seven positions have engaged in commercial fishing in the past and at least one continues to do so at present.

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 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	2,518	26	1.0%	7.8%	186	15.3%
2000	2,675	414	11.1%	27.93%	625	12.5%

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

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, while there is considerable variation from year to year and between the major species, proportionately more crab appears to have been processed in Unalaska at least during most years following rationalization 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.

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 5-year program 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.

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 Alaska 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 2009.

Table 2.1-16. Estimated Number of Permit Holders and Crew Members from Unalaska/Dutch Harbor 2000–2009

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
2007	50	169	219
2008	36	170	206
2009	32	208	240

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 http://www.cfec.state.ak.us/fishery_statistics/permits.htm.

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, according to earlier interviews (2004, 2008). 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 and detailed below, 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, black cod, 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), with cod reportedly being the driver of recently seen growth of the local

fleet.³⁸ 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 more challenging for larger plants to accommodate what are, by necessity, relatively small and (in most cases) sporadic deliveries.

According to interviews conducted for the crab rationalization 3-year program review 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 rely exclusively on fishing as an income source or is otherwise characterized as a full-time fisherman. Interviews conducted for this crab rationalization 5-year program review (in 2010) would suggest that this number has grown somewhat with the recent addition of at least two vessels to the local fleet that are relatively large by local fleet standards, but the number of residents focused on commercial fishing for their exclusive or even primary source of income remains small. 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 a 2008 interview with an individual generally perceived to be the most active of local fishermen, there were more lucrative opportunities for Unalaska residents in the small boat fleet than as crew on crab vessels at the time, and the local small boat fleet in 2008 was more vibrant than it had been in recent previous years. This same individual, interviewed in 2010, offered that the local fleet has remained vibrant (and expanded) in the intervening 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

Overview

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

³⁸ Though cod remains a mainstay of the local fleet, gear types have changed over time. According to interviews conducted in 2010, no local vessels jig cod as was done in the relatively recent past.

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.

Locally Owned BSAI Crab Vessels

In regard to local engagement in the BSAI crab fisheries, according to the BSAI crab fishery 1998–2010 dataset,³⁹ the number of Unalaska-owned vessels participating in the Bristol Bay red king crab fishery declined from two to zero in the years immediately preceding the implementation of BSAI crab rationalization (two vessels in 1998 and 1999 [*Vessel Unalaska A* and *Vessel Unalaska B*] and a different vessel [*Vessel Unalaska C*] in 2002 and 2003), and no locally owned vessels have participated in the fishery since rationalization. Of the three unique vessels that appear in the dataset as being Unalaska-owned and participating in the Bristol Bay red king crab fishery, interviews with well-informed local sources would suggest that only one of these vessels (*Vessel Unalaska A*) was owned by an individual who was (and, indeed, still is) considered by community members to be a local resident, with the other two vessels considered as owned by Washington residents. (This vessel is shown in the dataset as continuing to fish in Unalaska in all subsequent years covered by the dataset [2000–2009], but not in the rationalized BSAI crab fisheries.) Of the two vessels not considered by informed local sources as being Unalaska-owned, one (*Vessel Unalaska B*) is shown in the dataset as being Unalaska-owned in 1998 and 1999 (the first 2 years covered by the dataset), but Seattle-owned (and still participating in the Bristol Bay red king crab fishery) for all subsequent years covered by the dataset (2000–2009). The remaining vessel (*Vessel Unalaska C*) is shown in the dataset as Unalaska-owned (and participating in the Bristol Bay red king crab fishery) for the years 2002 and 2003, but being owned (and participating in the Bristol Bay red king crab fishery) in one Washington state community in 1998 and 1999, a second Washington state community in 2000 and 2001, and a third Washington state community in 2004⁴⁰ (and it is shown as participating [as a Washington community-owned vessel] in fisheries other than the Bristol Bay red king crab fishery for the balance of the years covered by the dataset [2005–2009]).

In the Bering Sea snow crab fishery, one vessel designated as Unalaska-owned appears in each of several years leading up to rationalization, but the specific vessels listed vary from year to year. The vessel designated as Unalaska-owned and participating in the Bering Sea snow crab

³⁹ Crab rationalization community analysis dataset compiled by NPFMC staff (2010) from Alaska Department of Fish and Game fish ticket and Alaska Commercial Fisheries Entry Commission gross revenues data and used to generate the tabular data in Chapter 1 and Attachment 1.

⁴⁰ This vessel (*Vessel Unalaska C*) is also shown in the dataset as Unalaska owned in the Bering Sea snow crab fishery in 2004, but not as Unalaska owned in the Bristol Bay red king crab fishery in that same year.

fishery in 1998 and 1999 is one of the two vessels (*Vessel Unalaska B*) previously noted as being designated as Unalaska-owned and participating in the Bristol Bay red king crab fisheries those same 2 years (the one whose owner was not considered by informed local sources to be an Unalaska resident). As was the case with Bristol Bay red king crab, this vessel is shown in the dataset as being Unalaska-owned in 1998 and 1999 (the first 2 years covered by the dataset), but Seattle-owned (and still participating in the Bering Sea snow crab fishery) for all subsequent years covered by the dataset (2000–2009). The vessel designated as Unalaska-owned and shown in the dataset as participating in the Bering Sea snow crab fisheries in 2002, 2003, and 2004 (*Vessel Unalaska C*) is shown as being owned (and participating in the Bering Sea snow crab fishery) in one Washington state community in 1998 and 1999, a second Washington state community in 2000 and 2001, and in a third Washington state community in 2005 and 2007 (and it is shown as participating [as a Washington community-owned vessel] in fisheries other than the Bering Sea snow crab fishery [or the Bristol Bay red king crab fishery] for the balance of the years covered by the dataset [2006, 2008, and 2009]). In addition to these two vessels (*Vessel Unalaska B* and *Vessel Unalaska C*) that fished both Bristol Bay red king crab and Bering Sea snow crab and show up in the dataset as Unalaska-owned vessels (but are not considered by knowledgeable Unalaska sources as having been owned by Washington residents as opposed to Unalaska residents), two other vessels designated as Unalaska-owned appear in the dataset as having fished Bering Sea snow crab in recent years (*Vessel Unalaska D*) and (*Vessel Unalaska E*).

Vessel Unalaska D appears in the dataset as an Unalaska-owned vessel participating in the Bering Sea snow crab fishery in 2005 and *Vessel Unalaska E* appears in the dataset as an Unalaska-owned vessel participating in the Bering Sea snow crab fishery in 2006. The ownership and participation patterns of these two vessels are unlike any of the other vessels that appear as Unalaska-owned vessels in the dataset. *Vessel Unalaska D* shows up in the dataset as a Seattle-owned vessel participating in BSAI crab fisheries from the first year covered by the dataset (1998) through 2004. It is shown as fishing as a Unalaska-owned vessel in the Bering Sea snow crab fishery in 2005 (pre-rationalization) and then not fishing BSAI crab in any of the years post-rationalization (although it does show as participating in other fisheries as an Unalaska-owned vessel in 2006, 2007, and 2009 [the most recent year covered by the dataset]). *Vessel Unalaska E* shows up in the dataset as a Seattle-owned vessel participating in BSAI crab fisheries from the first year covered by the dataset (1998) through 2005. It is shown as fishing as a Unalaska-owned vessel in the Bering Sea snow crab fishery in 2006 (post-rationalization) and then not fishing BSAI crab in any of the other post-rationalization years (although it does show as participating in other fisheries as an Unalaska-owned vessel in 2007, 2008, and 2009 [the most recent year covered by the dataset]). *Vessel Unalaska E* is the only vessel designated as an Unalaska-owned vessel in the dataset that fished in any of the post-rationalization BSAI crab fisheries, and only did so during the first year post-rationalization. According to field interviews with knowledgeable local residents, both the *Vessel Unalaska D* and *Vessel Unalaska E* are owned by the same individual who is considered a local resident, at least on a part-time basis. This individual reportedly has a history of property ownership in Unalaska but spends a significant portion of the year residing elsewhere.

Beyond the five vessels already noted (*Vessels Unalaska A, B, C, D, and E*), no other Unalaska-owned vessels have participated in any of the now-rationalized crab fisheries in recent years, either before or after rationalization. According to the dataset, no Unalaska-owned vessels have participated in the Bering Sea king crab fishery since 2003 or the Bering Sea snow crab fishery

since 2006. 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, as noted above. 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.

BSAI Crab Quota Shares

Locally Owned BSAI Crab Vessel Owner Quota Shares

Among the now-rationalized BSAI crab fisheries (not all of which have been open in recent years⁴¹), two individuals listed as Unalaska residents in the dataset qualified for initial catcher vessel owner quota share allocations in each of the Bristol Bay red king crab, the Bering Tanner East, the Bering Tanner West, and the Pribilof blue and red king crab fisheries. One of these two individuals also qualified for an initial catcher vessel owner quota share allocation in each of the Bering Sea snow crab and the St. Matthew blue king crab fisheries. Of these two individuals who received initial catcher vessel owner quota shares, one is an individual who was (and, indeed, still is) considered by community members to be a local resident. The other individual, according to knowledgeable local sources, is also considered a local resident, at least on a part-time basis, as this individual reportedly has a history of property ownership in Unalaska, but spends a significant portion of the year residing elsewhere. The number and percentage of overall quota shares held by these two individuals were the same for the 2010/2011 season Individual Fishing Quota (IFQ) allocation as they were for the initial allocation, meaning there has been no loss or gain of shares by these two individuals in any of the fisheries noted since the initiation of the program. Apart from these two individuals, no other individuals listed as Unalaska residents in the dataset were initially allocated or have subsequently ever held catcher vessel owner quota in any of the rationalized BSAI crab fisheries.

Locally Owned BSAI Crab Catcher Vessel Crew Quota Shares

According to the BSAI crab rationalization database, only two individuals listed as Unalaska residents in the database qualified for initial allocation of catcher vessel crew quota shares. One of these two individuals is also one of the two individuals in Unalaska who received catcher vessel owner shares under the program. This individual holds catcher vessel crew shares in the Bristol Bay red king crab, the Bering Sea snow crab, the Bering Tanner East, the Bering Tanner West, and the Pribilof blue and red king crab fisheries, all of the same fisheries for which he qualified for catcher vessel owner share allocation (except this individual also qualified for St. Matthew blue king crab fishery catcher vessel owner quota, but not for catcher vessel crew

⁴¹ The Pribilof blue and red king crab fishery and the Western Aleutian Islands red king crab fishery have been closed for a number of years, including the 5 years post-implementation of rationalization, and are not expected to reopen in the near future. The St. Matthew blue king crab fishery had also been closed for a number of years post-implementation, but recently opened for the 2009–2010 season with a total allowable catch (TAC) of approximately 1.17 million pounds (with a 90/10 percent split between Individual Fishing Quota and Community Development Quota, respectively). The fishery will also be open for the 2010–2011 season with a TAC of 1.6 million pounds.

quota). This individual, according to knowledgeable local sources, is considered a local resident, at least on a part-time basis, as he reportedly has a history of property ownership in Unalaska, but spends a significant portion of the year residing elsewhere. This individual still, as of the 2010/2011 allocation, holds catcher vessel quota shares equivalent to those he received under the initial program allocation, meaning there has been no loss or gain of shares by this individual since the inception of the program.

The situation for the second individual with an Unalaska address receiving initial catcher vessel crew quota share under the BSAI crab rationalization program is more complicated. This individual received initial allocations in the Bering Tanner East and Bering Tanner West fisheries under an Unalaska address, but received initial allocations for the Bristol Bay red king crab, the Bering Sea snow crab, and the St. Matthew blue king crab fisheries under a Seattle address. All of these quota shares are listed as owned by this same individual but under an Unalaska address for the 2005/2006, 2006/2007, and 2007/2008 seasons. According to an informed local source in Unalaska, this individual was not known to have actually lived in Unalaska except during the fishing season, and has since passed away. After the 2007/2008 season, no catcher vessel crew quota shares are shown in the dataset under this individual's name nor do any additional catcher vessel crew shares show up under any other individual's name associated with an Unalaska address, presumably meaning the shares formerly held by this individual have passed to ownership outside of Unalaska.

Apart from the two individuals noted, no other catcher vessel crew quota shares are listed as being owned in the dataset by Unalaska residents either in the initial allocation or in any of the subsequent post-rationalization years through present (2010). With the apparent sale of shares by one of these individuals, only one individual residing at least part-time in the community holds catcher vessel crew shares in any of the rationalized BSAI crab fisheries.

Local Crab Vessel Crew Members

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, landing, and processing port for the BSAI crab fisheries. According to multiple interviews with knowledgeable community residents in 2004 and 2008, no full-time Unalaska residents had been known to crew on BSAI crab vessels in recent years, either before or after the implementation of rationalization. Interviews in 2010 would suggest that at least one and perhaps a few more individuals have crewed on BSAI crab boats more recently, but apparently the number remains small. 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.

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 5-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, where plants do draw processing workers from the community. That is not to say the nature of "transientness" has not 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, part employment levels have mostly 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 some plant operations 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. Other plants may split their operation between a “pollock side” and a “seafood side” with fillet/surimi adjustments taking place within the “pollock side.” (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 and 2010) 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 Processing Operations

At the time of the crab rationalization 3-year program review (2008), the plants then currently operating in Unalaska could usefully be grouped into three different categories: the three large multispecies plants (UniSea, Alyeska, and Westward), a mobile processor operator (Icicle), and two smaller specialty processors (Prime Alaska and Harbor Crown). The large multispecies plants were all AFA-qualified groundfish plants, and all processed a wide range of species. Another plant that processed a significant amount of BSAI crab prior to rationalization (Royal Aleutian Seafoods) had been sold and its quota consolidated with another processor following the implementation of crab rationalization, well before the time of the 3-year program review. Since the crab rationalization 3-year program review (2008), both plants characterized as smaller

specialty processors ceased operations in 2009, and the likely future uses of these facilities vary as well, as noted below.

UniSea

UniSea has a large multispecies 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 (2010), when fully operational, UniSea had about 1,220 workers in Unalaska in 2009, including processing, direct support, and other business functions, a decrease of about 200 workers reported at the time of the crab rationalization program review (2008), or about the same level of employment as reported during interviews in 2004. At present (2010), the number of direct processing workers (not including support or other business unit personnel) peaks at around 870 during pollock A season, and then again around 540 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. In 2008, an increase of about 300 workers during A season in the initial years following crab rationalization, for example, was attributed primarily to diversification of pollock products, with an emphasis on producing more labor-intensive fillets, along with an increase in cod production. Changes in technology and an emphasis on labor efficiency have also had an impact on employment levels, such that the plant at present (2010) has the ability to run that same product mix with fewer employees than in 2008. 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 440 workers on-site, including about 120 processors who are available to process intermittent deliveries but who also help with offseason maintenance, an increase in total workers but a decrease in processors compared to figures reported in 2008.

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 has also considered restarting salmon operations at the Unalaska plant in recent years but has not yet found conditions favorable to do so. Dungeness processing was added to the mix of species processed by Unisea in 2010 but was reportedly done as much to keep people busy during otherwise slower times as to diversify product lines. With the recent (2009) closure of Prime Alaska Seafoods, UniSea is again handling its own cod milt after a number of years of not doing so.

Alyeska

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 are reportedly more efficient than pre-rationalization, but there are spillover effects on other operations when large deliveries occur. As reported at the time of the crab rationalization 3-year review (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 (2010) approximately 500 workers are on-site during the January through March period (up about 50 workers from levels reported in 2008), when pot cod, opilio, pollock, and trawl cod largely fuel operations. Activity increases again from June through August, when about 290 workers are on-site, with another distinct peak 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. Plant employment then steps down to 210 to 220 workers from October into November. 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 (2010) 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 85 and 87

percent in recent years. During the 2010 B season, Alyeska reported hiring only one new (nonreturning) employee.

While Alyeska traditionally had been a diverse, multispecies 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 Section 2.1.3.3.

Westward

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 550 seafood and pollock processing workers and about 125 to 130 maintenance, office, galley, and housing workers present in 2010 during the January through March period during pollock, opilio, and cod activity, down 15 to 20 percent from numbers reported in 2008. Shift sizes remain about the same as reported in 2008 due to 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 (2010). 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, or the same as described for 2008. From July through the end of October, approximately 550 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, a decline of about 150 processing personnel from the numbers reported in 2008. From November and especially December through the end of the year, local employment is at its ebb, with roughly 200 personnel on-site engaged in cleanup, maintenance, and some relatively low-volume processing, including brown crab and pot cod (an increase over numbers seen in 2008). About 125 people work steadily at the plant through the entire year.

Crab processing at Westward occurs intermittently through the year with season openings, with the pattern described at present (2010) closely mirroring the pattern described in the crab rationalization 3-year program review (2008). 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. According to local management, this can be challenging when trying to hit particular market windows, such as the Japanese December holiday market that effectively requires deliveries be by a cut-off date earlier than some vessels, on occasion, have chosen to deliver. Rationalization has also changed the timing with respect to northern region versus southern region deliveries, with the result that southern region deliveries tend to cluster later as vessels seek to finish northern region deliveries before ice becomes a problem in that area, a pattern also influenced by the smaller fleet. Overall, however, the rationalization program is seen as providing stability for the industry. Rationalization has increased product forms as, according to senior plant management, they were running 11 different crab product forms as of 2008, with this type of product diversity continuing to the present (2010).

Icicle

Local Icicle Seafoods operations have yet a different focus from the other local processors. According to interview information in 2010, the pattern of local operations is little changed from that described during 2004 and 2008 interviews. Icicle does not have a local shoreplant facility, but two of the company's mobile processors, the *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 the *Bering Star* and *Arctic Star* when they are in Unalaska varies by the vessel and the season. The *Bering Star* typically operates with a crew of around 90 to 100 when it is in the community, while the *Arctic Star* uses about 50 to 60 workers per shift for cod and around 90 to 100 workers for crab (reported in 2010 to peak at 130 workers when crab is running at full capacity), 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 pollock seasonally in Unalaska Island's Beaver Inlet, does not operate within the city limits of the City of Unalaska but is supported out of the community. (While the fleet serving the *Northern Victor* only targets pollock for their deliveries, the *Northern Victor* does also process

cod and other allowed retainage species.) In one marked change from the time of the crab rationalization 3-year review (2008), the *Discovery Star*, which also operated in the region, focusing on herring and salmon, is “mothballed” at present (2010) and reportedly did not operate locally in 2009 and 2010. In October 2008, Icicle Seafoods also purchased the processing ship *Stellar Sea*, subsequently renaming it the *RM Thorstenson*,⁴² but it has not operated the vessel in Unalaska.

Other Current Processing/Processing Related Operations

At least a few small-scale firms in the community are not processors *per se* but handle and ship seafood from Unalaska as well. The most visible of these is Aleutian Fresh Seafoods, which, according to its owner, began operations in 1990. Aleutian Fresh buys a range of Bering Sea product from local processors, including crab, as well as from sources outside of the community (for example, shrimp from Southeast Alaska, smoked salmon from Fairbanks and Kenai, and scallops from Yakutat) and ships primarily direct to consumers, although some shipments are made to restaurants as well. At the time of the crab rationalization 3-year program review (2008), Aleutian Fresh had been operating a small store in the airport complex since 2005 and employed two full-time people at that facility, 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. At the time of fieldwork for this crab rationalization 5-year program review (2010), however, the airport store was closed and Aleutian Fresh had no employees, with the owner running the business himself (in addition to a fire equipment and appliance business). According to the owner, the closure of the Aleutian Fresh Seafoods Unalaska airport store was more closely related to what ultimately proved to be an unsuccessful expansion into the Seattle market, where for a period of time Aleutian Fresh had a store with three full-time and two part-time employees, than to any Unalaska-specific factors. Similar to the pattern described in the crab rationalization 3-year program review, Aleutian Fresh sales are typically generated online and by word of mouth, and peak around the Thanksgiving and Christmas holidays. Locally generated orders can be delivered to customers at the airport as well as shipped direct. In addition to seafood products, Aleutian Fresh also sells a number of miscellaneous seafood-related items. According to the owner of the business, while Aleutian Fresh Seafoods was not directly affected by the crab rationalization program, this same individual owns two other businesses, one of which reportedly did experience a slow-down as a result of fleet consolidation that accompanied crab rationalization. Like a number of other entrepreneurs in Unalaska who have built a diversified income stream across several ventures that include fishery support functions, this individual reports that he further diversified his businesses to make up for lost revenues in one area, but he also reports that while gross revenue dollars may have remained relatively stable as a result of shifting effort, overall profitability is down compared to earlier years. This theme of “working harder for equivalent returns” is seen in at least some other Unalaska support service businesses, as described below.

⁴² This vessel is also commonly referred to as the “RMT” or even “*the Bob*.”

Recently Closed Processing Operations

Prime Alaska

Prime Alaska Seafoods, described in earlier profiles compiled for crab rationalization program analysis in 2004 and 2008, ceased operations in 2009, following its primary owner/manager passing away. According to local industry sources, the plant is unlikely to reopen and at least some of the plant equipment has been sold to other interests.

As described in the crab rationalization 3-year program review (2008), Prime Alaska Seafoods was 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 did not have its own dock space. At the time (2008), Prime Alaska did not have any year-round employees but rather operated seasonally. A typical yearly cycle involved 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 were typically employed). These operations were undertaken in conjunction with UniSea. Additionally, Prime Alaska processed fresh halibut from approximately the last week of May through August each year (during which time about 10 processing workers were employed 1 or 2 days per week, if enough people could be found). All products were shipped as fresh container loads as Prime Alaska did not have freezer facilities.

As described in the crab rationalization 3-year program review (2008), 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, had 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 then-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 had not yet recovered. Relatively little of Prime Alaska’s halibut was 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 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. (Prime Alaska, despite having at least some history of crab processing, having run both Bristol Bay red king crab and Bering Sea snow crab as recently as 1999, did not qualify for processor quota under the rationalization program.) In terms of competition with larger processing entities, maintaining good relations with other firms was seen as important, and while the owner was quoted as saying “there is always enough fish for someone of this size” there were 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 this did not happen before Prime Alaska ceased operations. 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 could 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 queued up and waited, so there was 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 needed 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 were 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).

Harbor Crown

Harbor Seafoods, described in the crab rationalization 3-year program review (2008), ceased operations in 2009, following a series of financial difficulties. The plant is likely to reopen in the relatively near future under new ownership, however, as described below.

As described in the crab rationalization 3-year program review (2008), Harbor Crown Seafoods, established in the summer of 2003, was the newest entrant into the Unalaska processing sector. This operation was 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 were composed of several buildings including, among others, the sub dock shipway and building; a machine shop (that was then 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.⁴³ 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 then-current facilities in the fall of 2006. At the time of the crab rationalization 3-year program review, Harbor Crown ran gray cod, sablefish, halibut, brown and red king crab, blue crab (when available), and bairdi and opilio crab. All of the rationalized crab

⁴³ Osterman Fish, despite having at least some history of crab processing in Unalaska, including running Bristol Bay red king crab as recently as 2002 and Bering Sea snow crab as recently as 2003, did not qualify for processor quota under the Bering Sea and Aleutian Islands (BSAI) crab rationalization program. Osterman Fish ceased operations a short time before the implementation of the crab rationalization program, following its primary owner/manager passing away. The crab-related history of Osterman Fish and Prime Alaska Seafoods has a number of parallels. Both processed BSAI crab on a relatively small scale in Unalaska prior to rationalization, neither qualified for processing quota under the rationalization program, both were entities that were largely operationally run by a single individual owner/manager heavily engaged in all aspects of the business, and neither enterprise was able to survive the demise of their primary owner/manager.

species that Harbor Crown ran as its own crab were 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 leased 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 included head and gut gray cod, and head and gut halibut (fillets were not produced, according to management interviews in 2008, due to a lack of experienced cutters). A particular crab niche was individually cut crab legs (for species other than opilio) in 20-pound single leg packs. According to local management in 2008, Harbor Crown tended to pay harvesters more for king crab than did other local processors, as it could not 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 arranged crab deliveries through co-ops but also took deliveries from individual vessels *Time Bandit* and *Northwestern*.

As described in the crab rationalization 3-year program review (2008), in terms of an annual round for Harbor Crown, during the January through March period that encompassed A season, between 120 and 130 processors were 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 slowed after A season, approximately 21 processors would remain on-site until mid-August and the combined dock and engineering crew would drop from around 14 to around 5 individuals. Around August 17 brown crab king processing would start up, followed by cod around the first of September, at which time there would be two shifts of 35 processors running, for a total of 70 processors on-site. This level of activity typically continued through mid-December with red king crab processing. During the last 2 weeks of December there would be a minimal crew on-site performing some maintenance work while the plant was otherwise shut down. Some galley staff members also worked during this time as some other employees did stay on the site in company facilities during this time even though they were not actively working. Although there were 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 were often recruited in Anchorage. According to local management, recruiting efforts did take place in Seattle and elsewhere in the Pacific Northwest, but those were less successful. Plant management also reported in 2008 that a number of processors were hired from among those who have been let go from other plants in the community. The plant was characterized as somewhat different from the large plants in the community based on a relative lack of automation, meaning that work could be physically difficult, especially during the long shifts of peak seasons.

According to a 2010 field interview with one of the former owners of Harbor Crown, the demise of Harbor Crown Seafoods was not related to conditions created by the BSAI crab rationalization program. While there were a number of causes for the demise, prominent among them were business decisions/strategies that proved unsurvivable when coupled with successive fishery-level setbacks in the cod and opilio fisheries.

At the time of Unalaska fieldwork for this crab rationalization 5-year program review (September/October 2010), the former Harbor Crown facilities were sitting idle but had reportedly

been purchased by a new owner during a foreclosure sale. According to an August 9, 2010, news release, cited in a local newspaper (*The Dutch Harbor Fisherman*), joined as Dutch Harbor Acquisitions LLC, Siu Alaska Corporation, a wholly owned subsidiary of the Norton Sound Economic Development Corporation (a CDQ entity), and Copper River Seafoods have purchased the assets of the Harbor Crown processing plant. According to the same news release, the plant, under the trade name Bering Star Fisheries LLC, plans to purchase and process halibut, cod, black cod, and crab, and is scheduled to be open and operating by January 2011.

Royal Aleutian

While Harbor Crown represented a new processing entrant into the rationalized crab fisheries (as presumably will its successor, Bering Star 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, the processing of which ultimately has been retained in Unalaska (and processed at the Harbor Crown facility for some years and is currently [2010] being custom processed at one of the existing large crab processing entities in the community). Royal Aleutian was unique among processors in Unalaska as its operations focused 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 were characterized as always being in the community, despite the fact that work was 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, as reported in the crab rationalization 3-year program review, employment levels increased at both UniSea and Harbor Crown Seafoods, the two processors that were then running the processor quota that was initially allocated to Royal Aleutian, so there was no apparent net processing job loss in the community. The post-rationalization employment history of specific former core workers at the Royal Aleutian plant was unknown, but interviews suggested that the growth of Harbor Crown provided at least some parallel opportunities post-rationalization. With the subsequent closure of Harbor Crown, overall processing employment in the community has likely fallen (especially when combined with increased operational efficiency in the past few years noted by some of the other processors, which has made at least some processing less labor intensive, further reducing the demand for labor), but it is also likely that labor demand reduction brought about by the demise of Harbor Crown will be offset, to some degree, in the near future by the planned reopening of that facility under new ownership,

Other Local Processing Activity

A number of other entities are shown in the crab rationalization dataset as having processed BSAI crab in Unalaska over the years covered by the dataset (1998–2009) in addition to those shoreplants or mobile processors discussed earlier in this section. In the years prior to rationalization (1998–2004), the additional entities shown as processing Bristol Bay red king crab and/or Bering Sea snow crab included Trident Seafoods (2 years) along with Yardarm Knot Fisheries and the Fisherman of Alaska (1 year each). During the transition year of 2005, Golden Shamrock is listed as processing at least one of these species. In the post-rationalization years (2006–2009), the additional entities shown as processing Bristol Bay red king crab and/or Bering Sea snow crab included Highland Light (3 years) and Peter Pan Seafoods (2 years), along with Snopac, Ocean Beauty, Blue Dutch, and 57 Degrees North (1 year each). None of these additional entities has a physical shore-based processing presence in the community (although Trident Seafoods does have logistical support and office facilities in the community) and none has a regular floating processing platform presence in the community. As shown in the listing, the additional entities that processed in Unalaska pre- and post-rationalization are mutually exclusive sets. During 2007, four of these additional entities were listed as processing Bristol Bay red king crab and/or Bering Sea snow crab in Unalaska, which, when combined with the five BSAI crab processors regularly operating in the community (Alyeska, Harbor Crown, Icicle, Royal Aleutian/UniSea, and Westward), pushed the number of processors of BSAI rationalized crab in Unalaska to a 1-year dataset high of nine entities. It is likely that the additional entities shown as processing BSAI crab in the post-rationalization years represent custom processing activity that is taking place at the crab processors regularly operating in the community.

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 APL and Horizon Lines, which represent the corporation’s largest leases, and to at least one of the seafood processors in recent years, Harbor Crown Seafoods.⁴⁴ 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. As reported in the crab rationalization 3-year program review, 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, a pattern that was confirmed as still accurate in interviews in 2010. 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 (2010) a waiting list for corporation-owned housing, as there was in 2008, although according to senior leadership there are now at least some winter vacancies in some corporation-owned housing units that are otherwise typically occupied by construction company personnel.

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.

⁴⁴ While Harbor Crown is no longer in business, it is assumed that with the reported 2010 sale of Harbor Crown assets to another entity planning to initiate processing in Unalaska in 2011, the Ounalashka Corporation will again be leasing to at least one local processing entity.

Shoreplant Support

In general, in the way of support services, there is little direct local 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. Historically, the smaller processing operations in Unalaska have been noted as making proportionally more local purchases of goods and services in the community than have the larger 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. In the crab rationalization 3-year program review it was noted that Royal Aleutian was the only processor that had ceased operations during the post-BSAI crab rationalization era in Unalaska and that in the meantime, Harbor Crown Seafoods had ramped up operations in the community, including crab processing. It was not known, however, how the level of local purchases of support services varied between these two operations. More recently (2009), as previously noted, both Harbor Crown and Prime Alaska operations ceased in Unalaska, such that it is likely that some support sales have been lost, but no systematic information exists to quantitatively demonstrate this likelihood.

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 in terms of employee retention/longevity, 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 inventory relative to overall volume of sales 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 race for fish pressures declined, 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 means 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 and in the crab rationalization 3-year program review social impact assessment 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 the time of the crab rationalization program 3-year review (2008) there were a total of five enterprises 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]). The crab rationalization 3-year review also noted that one general store had left the market (Carl's Commercial) in recent years and a small grocery store (Alyeska Trading Company) had subsequently opened near the site, but the latter was not involved in supplying vessels as were the larger stores. Since 2008, there have been changes in the sector with AC exiting the community, Alaska Ship Supply moving to the former AC space and modifying their inventory, and Eagle Quality Centers renovating and rebranding themselves as Safeway.

Specialty Operations

The description of Highliner Food Services contained in the crab rationalization 3-year program was confirmed during fieldwork as still being accurate at present (2010). Highliner, 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 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 tends to market their services to larger vessels in the different fleets. According to 2008 interviews, business had 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 2010 the business had five full-time local employees, with the same numbers reported in 2008. The company reportedly has not been affected by crab rationalization as the business remains focused on larger vessels.

The description of Peterkin Distribution contained in the crab rationalization 3-year program was confirmed during fieldwork as still being accurate at present (2010). Peterkin 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. In 2010, this figure was estimated to be as high as 95 percent. Overall, the business is described as primarily serving larger vessels, supplemented with a modest amount of local shore business, including some restaurant supply. Peterkin, unlike Highliner, fills all orders locally. According to 2004 interviews, Peterkin had 1 manager and 4 employees, but as of 2008 had between 6 and 10 full-time employees during the year, with these later figures remaining the same for 2010. Local management characterized Peterkin 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.

General Stores

At the time of the crab rationalization 3-year program review (2008), the two large grocery/general stores within Unalaska, Eagle Quality Centers and AC, shared 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 stocked a variety of furniture and firearms, while Eagle sold sportfishing gear, over-the-counter medicines, and jewelry. Eagle also contained a deli-bakery, coffee counter, and a large video/DVD selection for rent and for sale. AC tended to have a greater variety of nongrocery products given its history as a general store; thus, overall, nongrocery items accounted for a larger proportion of their business than was the case at Eagle. Eagle competed for business primarily based on variety and price of groceries and correspondingly has a larger market share for groceries. Nongrocery products in Eagle were 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 had local processing workers as a client segment. Common services included cashing paychecks and money order services. Beyond that there are a few differences in types of business attributable to the processing workers. Eagle management reported that processors tended to buy electronics and other consumer goods/personal items, but not much in the way of groceries. At the AC store, processing worker sales were reported to 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.

As of the crab rationalization 3-year program review (2008), both large grocery/general stores also supplied 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 varied, 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 served small vessels, but these were described more as “just filling a lot of carts” as opposed to bulk orders and, while important, were 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 was known, however, that employment levels were virtually the same in 2008 as they were in 2004 (20 to 21 full-time staff). All were full-time during the peak seasons (but with no overtime), and vacations were taken during off-seasons. More recently, AC left Unalaska, with Alaska Ship Supply moving to the former AC leased space and taking over operations in the fall of 2009, as described below.⁴⁵

At the time of the crab rationalization 3-year program review, local Eagle management estimated that about 33 percent of its grocery business was attributable to commercial fishery business, with about 20 percent of its overall business being directly attributable to vessels themselves. The overall dependency figure cited in 2008 was unchanged from that offered in 2004 interviews. Eagle had, however, seen a change in its staff mix in then-recent years. According to interviews with management in 2004, relatively few staff were full-time (the manager and senior

⁴⁵ As described elsewhere (EDAW 2008), Alaska Commercial Company had earlier (2005) taken over the lease and operations of what was formerly a Western Pioneer/Alaska Ship Supply store in Sand Point.

staff), but in 2008, according to senior management, the staff of 49 employees was split about 70 percent full-time and 30 percent part-time. In 2010, according to store management, employment was 57 employees, with an approximately 80 percent of those individuals working full-time and 20 percent working part time, with work hours adjusted during the year in response to busy and slow periods (based on maintaining an adequate sales to labor hour ratio) rather than hiring or laying off help. Additionally, during the low period of December when sales are down perhaps one-third over busier periods, employees are encouraged to take vacations, further reducing staff on hand during that time.

In 2009, the store was remodeled and the name changed from Eagle to Safeway.⁴⁶ As part of the remodeling, an inventory/floor space use was altered, with the service deli and produce sections of the store enlarged, among other changes. According to interviews for previous projects, Eagle facilitated vessel orders by offers of free delivery and boxing if a list was sent by the vessel and offered “streamlined retail” as opposed to wholesale service, which Safeway continues to do at present (2010). According to store management, one of the ways Safeway differentiates itself from other stores in the community is through providing fresh cut meat (others reportedly provide only packaged frozen meat) and more of a grocery variety than other stores, which is popular with vessel crews as well as community residents. While vessels typically “buy off the shelf,” Safeway does have the ability offer case lot service, although that is more of a focus of other grocery providers in the community. 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 the store’s business cycle more predictable and has not resulted in noticeable adverse impacts to the business.

In the crab rationalization 3-year program review, the Alaska Ship Supply grocery operation in Dutch Harbor, part of a larger store with multiple offerings including clothing, marine hardware, fishing gear, and crew supplies, among others, was described as being similar in some operational characteristics to Highliner or Peterkin such as in typical commercial vessel orders, although it was characterized as 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 at the time resembled a bulk item wholesale/retail store, and it had 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 later interviews, this general pattern is unchanged as of 2008. As of 2010, however, local management estimated that this figure was now perhaps closer to 85 percent (with about 20 percent attributable to crab vessels in particular). 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

⁴⁶ Although variously known as Carrs, Eagle, and Safeway since its opening in Unalaska, ownership of the store has remained constant.

Supply also has a smaller Captains Bay location in the community. Opening in 2003/2004, this store has a nongrocery inventory similar to the main local Alaska Ship Supply store, along with a mini-mart type of food and beverage service. According to senior management, as of 2008 there had 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, approximately 30 individuals were employed at both store locations in the community, with little turnover reported. According to 2010 interviews, there are 42 Alaska Ship Supply employees in Unalaska.

In 2009, as noted above, Alaska Ship Supply took over the former AC space in Unalaska, moving its Amaknak Island operations (its main store) to a location along Airport Beach Road that is more centrally located in the community than its former space on Ballyhoo Road (while retaining its satellite store, its Unalaska Island operation, in Captains Bay). As of the time of fieldwork in September/October 2010, Alaska Ship Supply was in the process of building additional space at its new location to allow the completion of the move of its various specialty departments from the old to the new space. As a part of the move to its new location, Alaska Ship Supply enlarged its home hardware and automotive departments and was focused more on the general community market in addition to the commercial fisheries market than was the case in the previous location. (Unalaska Building Supply, which was affiliated with a national hardware chain, closed its doors in the interval between the crab rationalization 3-year program review [2008] and the 5-year review [2010].)

Another general store in Unalaska, Carl's Commercial, closed in recent years (during the post-crab rationalization era, in the interval between the implementation of the program [2005] and the time of the 3-year program review [2008]). Carl's was a long-standing institution in the community, having operated under the same ownership since 1961, and one that traced its 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, another store dating back decades). 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 Alyeska 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 the 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 (2010) essentially a small grocery and general store.

At the time of the crab rationalization 3-year review (2008), two relatively small Asian specialty stores had also opened in the community in then-recent years. Metro Manila Asian Foods was located in the sub dock area and Dutch Harbor Asia Oriental Grocery was located across the street in the Dutch Harbor Mall. As of the time of fieldwork for this 5-year program review (September/October 2010), Dutch Harbor Oriental Grocery was still in business, but Metro Manila Asian Foods was not, following a fire in the building that housed it and several other businesses.

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.

The description of LFS contained in the crab rationalization 3-year program was confirmed during fieldwork as still being accurate at present (2010). 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 had 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 interviews in 2008, BSAI crab rationalization did change the business cycle somewhat as October was 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 and while staffing levels had remained stable since before crab rationalization was implemented, overtime earnings of workers were reported to have declined. According to interviews conducted for this crab rationalization 5-year program review, LFS still has three full-time employees at present (2010) but no longer has any part-time employees. Other business changes since 2008 have included an increase in locally carried inventory, and while overall business patterns were described as consistent with earlier characterizations, increases in the level of crab-related activity have been seen at LFS from January through the first week of March, and then again from October through the second week of December.

The description of Net Systems contained in the crab rationalization 3-year program was confirmed during fieldwork as still being accurate at present (2010). 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 increased from four persons in 2004 to five full-time staff as of 2008, all of whom lived year-round in Unalaska, with the same level of employment confirmed for 2010, although another (sixth) staff member had recently been let go. According to 2008 interviews, with rationalization, crab-related sales were now down to about 10 percent of the business, although there had 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. According to 2010 interviews, the business fortunes of Ocean Safety Systems were also influenced by a loss of market share to Alaska Marine Safety, which established a presence in the community at virtually the same time as the implementation of crab rationalization (described below), such that while Net Systems still sells safety supplies, Alaska Marine Safety has largely, if not entirely, captured the raft-packing portion of the marine safety market in the community. Net Systems at present (2010) sees business from crabbers primarily in the form of pumps, motors, and a modest amount of line, and business related to the pollock trawl fleet has reportedly changed with more vessels getting work done down south plus changes in wire and cable technology in the last few years, which has been coincidental with lower pollock quotas.

Alaska Marine Safety established a business in Unalaska in 2005. According to interviews with the local manager in 2010, Alaska Marine Safety originally intended to begin operations in the community with the purchase of the local Ocean Safety Systems operation, but with the anticipated consolidation of the crab fleet (which directly impacted negotiations between the two firms over the value of the already established Ocean Safety Systems operation), those plans no longer seemed as viable as attempting to immediately operate at a smaller scale by directly targeting only that portion of the fleet that indicated that they would still be actively fishing following the implementation of the program (rather than attempting to acquire and service the entire customer base Ocean Safety Systems had built over the years in Unalaska). The Alaska Safety Systems operation in Unalaska is essentially a one-person operation and, according to the local manager, while crab rationalization did not directly impact Alaska Marine Safety as an established business in the community as it initiated local operations with a strategy shaped by a knowledge of what would likely happen, crab rationalization is characterized as having limited what Alaska Marine Safety originally projected they could accomplish in the community, such that the business is not performing at the level originally intended. While the local employee describes business as “OK” he, like a number of other local entrepreneurial support sector business operators, has other employment, in this case working for the local union as a longshoreman, in order to diversify his income stream and piece together a living that would otherwise be difficult with a single focus.

Alaska Ship Supply, a grocery supplier as noted above, also has large hardware and marine supply departments within its store. According to 2008 interviews, while the bulk of this part of the business was marine oriented, they also stocked auto parts and provided some auto maintenance and repair services as well. According to senior management at that time, auto-related services 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. More recently, as noted earlier, this store moved to a more central location in the community in 2009 and, while maintaining its ship supply orientation, has enlarged its home hardware and auto parts departments.

Pacific Hardware opened in Unalaska in March 2008 in a building along Airport Beach Road close to the airport and is a small business that supplies gear for commercial fishing vessels. In June 2010, the business moved to a shared space with Alaska Marine Safety in a building shared with Horizon, Lunde North, and other tenants just inland from the main Delta Western fuel dock. As this one-person business was established post-crab rationalization, it did not experience any rationalization-related impacts.

Hydraulics

There are also currently (2010) two hydraulics businesses in Unalaska, as was the case at the time of the crab rationalization 3-year program review (2008): Rapp Hydema and Hydra-Pro. As described in that document, 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, in 2008 local management noted that larger jobs would go to their repair shop in Seattle unless they were needed on an emergency basis. As of 2010, however, local management noted that this is a “changing paradigm” with the company now doing more of the larger jobs in Unalaska that would have been sent south a couple of years earlier. As part of a much larger company, Rapp Hydema manufactures and produces its own equipment. The company has been in Unalaska since the late 1980s, and while the level of activity was characterized as “pretty busy all the time now,” according to interviews conducted in 2004, there were still distinct peaks just before and during the major seasons. Pre-rationalization crab activity was characterized in 2010 interviews as generating a huge peak in business, with multiple staff working around the clock when money was no object for vessel owners (as opposed to having down time for a vessel), and Rapp Hydema arranging deliveries of pallets of pumps, hoses, etc., months in advance, anticipating the two annual crab peaks. As of 2010, however, January is still seen as “peak” but October is described as more of a “jag,” as although seasons are now open-ended, there is still a distinct pulse of business associated with season openings, with crab vessels accounting for an estimated 8 to 10 percent of annual business volume. Business is now (2010) characterized as having stabilized, following declines during the first 2 years post-rationalization. As of 2010, local staff includes a manager, a secretary, a machinist, a mechanic, and a helper, with additional individuals brought in from Seattle during peak seasons as required, the same level of staffing as described in 2008.

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. According to interviews in 2004, Hydra-Pro typically had a total of six staff locally, but as of interviews in 2008, not all positions were then filled. As of 2010, there were four employees in the shop, down from the six previous positions, with the cut-backs largely attributed to cautionary changes in customers’ business practices that have accompanied the ongoing national recession. 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 2008 interviews with local management, crab-related business had declined by more than half since the implementation of crab rationalization, but overall Hydra-Pro attempted to keep their customer base broad over all types of vessels and the overall business had 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. As of 2010, however, revenues had leveled off if not declined over the previous 2 years, both attributed to the ongoing national recession and a drop in the cod market that meant a number of vessels that otherwise would have fished both crab and cod chose to fish only crab and therefore did not make the conversion to cod fishing. While crab-specific revenues have not rebounded to pre-rationalization level, local management is cautiously optimistic that the recent industry-led voluntary rationalization seen in the cod fishery would mean an increase in local business with the fewer remaining vessels staying in the community longer and more heavily utilizing local services.

As described in the crab rationalization 3-year program review, until recently, Unalaska was served by a third hydraulics entity, Hanson Hydraulics, that closed shop in the post-crab rationalization era, after the implementation of the program (2005) but before the 3-year review (2008). It was differentiated from the other hydraulics providers as 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 in 2008 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. According to the former owner, 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 (and longer-term retirement plans), a desire to have a better work schedule, and a perception that there would be future rationalization in the cod fishery that would likely 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. As described in the crab rationalization 3-year program review (2008), 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 then-recent years had four full-time employees on-site at any given time, though only the manager and administrative person lived in the

community, with the remaining staff rotating in and out 6 weeks at a time. Local management reported, however, that crab rationalization had resulted in less overtime for employees, which was a detriment to people rotating into the community who wanted to maximize their earnings while on the road. Overall, management staff reported in 2008 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). According to 2010 interviews, while employment levels and business patterns had not changed since 2008, over the past 2 years there has been an increase in fishery management-related business, including vessel monitor-related gear and observer-related business including, for example, scales. While crab-related revenues are characterized as remaining down perhaps 30 percent of their former volume, the local manager reported in 2010 that with taking on new pollock customers and opportunities brought about by new products and new markets, overall revenues have remained steady in the past few years.

As noted in the crab rationalization program 3-year review, 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 given 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 were in January and June in advance of pollock A and B seasons. As of 2010, STC had a single full-time, year-round employee in Unalaska, with an average of three to four employees on-site during peak periods, with plans to go to an all-rotation system (no full-time, year-round employees in Unalaska) in 2011. According to local management interviews in 2008, 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. According to 2008 interviews, an important growth area for STC has been the tug and transportation industry. According to more recent interviews, STC now (2010) has three crab vessels among its regular customers.

As described in the crab rationalization 3-year program review, Lunde North specializes in the installation and repair of marine electronics, with approximately 90 percent of the business attributable to commercial fishing, and 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 had 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 had increased in then-recent years. According to 2004 interviews, Lunde typically had two technicians working in the community, though a third would be added during busy periods. As of 2010, Lunde had two employees living in Unalaska, the local manager and an administrator, with other employees rotating into the community as needed. Local Lunde management reported in 2010 that for the previous 2 years Lunde typically has had only a single technician working in the community except during pollock A and B seasons and the first 2 weeks of the king and opilio crab seasons, when an additional half-time technician would be added.

Mechanical

As described in the crab rationalization 3-year program review, the business that is now NC Machinery had a long history in the community prior to becoming NC Machinery in 1985. NC Machinery is a supplier of mechanical work in Unalaska, specializing in service and sales CAT engines and equipment. In 2008, an estimated 75 to 80 percent of their local business was characterized as directly related to commercial fishing, with the balance comprising public clients, including utilities. More recently (2010), commercial fishing has been estimated to be 85 percent of the business following a slow-down in equipment work. Of the fishing-related component of the business, approximately 30 percent of the demand is shore based and 70 percent is fleet based. Within the fisheries component of the business, NC Machinery services 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 were local residents (a receptionist and 2 parts personnel), 13 technicians rotated into the community, and 2 branch managers also rotated in to fill local positions. As of 2010, employment levels were the same as described for 2008, although one of the parts personnel positions was unfilled (but was planned to be refilled) and the number of technician positions had been trimmed from 13 to 12 as of December 2008. The NC Machinery operation in Unalaska serves as a regional support hub for the company, with NC work in Port Moller, King Cove, Sand Point, Akutan, and St. Paul staffed and supported out of the Unalaska base. 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.” As of 2010, busy periods were described as occurring from March through June, when trawl vessels are tied up in the community, and from November through January, when vessels from a number of fleet segments are preparing for winter fisheries. 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. As of 2010, local management noted that there had been an industry-wide slump for the previous 2 years, accompanying the ongoing national recession, such that overall business was down perhaps 20 percent from 2008 to 2009 and another 5 percent from 2009 to 2010. According to 2008 interviews, crab rationalization had also resulted in increased employee turnover, as with a decline in overtime opportunities, it was less attractive for outside employees to rotate into Unalaska than was previously the case, a situation that is reported to still (2010) occur. NC Machinery is a business that relies on skilled labor, which is not locally available. This has been a challenge for the firm, which has had to create other assignments to allow employees to earn overtime, such as assigning them in 2008 to work related to SBX (defense x-band radar) in Adak and Hawaii, so that overall staying with the firm, including rotations into Unalaska, remains attractive. More recently, for employees wanting overtime during the summer months, this has proven a challenge. For the crew rotating into Unalaska, NC was able to place only one person on an overtime job opportunity in Russia in 2009, but no similar opportunities were identified for 2010. Local management has expressed the hope that the offshore oil development-related support activity that is currently (2010) occurring on a relatively small scale in Unalaska will provide additional opportunities for NC Machinery in the future, as it reportedly did in 2007 before a more recent offshore oil development moratorium was put into place.

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 according to 2008 interviews this segment of the business declined with rationalization. While some vessels have stayed in the community longer, boosting individual vessel business, this reportedly had not offset the volume lost with fleet consolidation. The business, as of 2008, had reportedly evened out, however, with an increase in revenues related to construction projects. Overall, sales were characterized as up in recent years, although rising costs and expenses have meant that revenues have stayed essentially flat in real terms. As of 2010, according to the local manager, staffing was down to one full-time, year-round employee, with a maintenance helper added as needed, typically for cleanup, and business was down approximately 20 percent over what was seen a couple of years ago, with this decline attributed to general economic conditions (and associated customer decision-making changes) related to the ongoing national recession. As of 2010, Waterfront crab-related business had not rebounded substantially (as illustrated by the observation that the interview took place 2 weeks before the start of a major crab season, but not a single customer had yet contacted Waterfront for crab vessel-related work), but longline-related business had increased recently. According to the Waterfront manager, cod vessels have been staying longer in Unalaska even though the overall fleet had declined as a result of changes in that fishery. (While the fleet decline was characterized as a cause for concern over the longer run, the business did see a short-term spike with work related to essentially decommissioning a couple of large vessels that were leaving the fleet as a result of the voluntary industry-led rationalization of the fishery.) Nonfisheries work continues to be important to the business, with work on recent municipal projects such as improvements to the Bridge to the Other Side, construction of the small boat harbor, and a major power plant project being particularly important to the business in the 2008–2010 timeframe. During that same period of time, new types of work/customers have included support for the National Oceanic and Atmospheric Administration (NOAA) and university-led research cruises, NASA vessel-based research efforts, and oil and gas exploration activities.

Harbor Welding specializes in ship repair welding and diving. As described in the crab rationalization 3-year program review, while in business at that time (2008) 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. According to 2010

interviews, Harbor Welding employed three persons year-round. While there are fewer employees than in the past, the owner describes the business as “always busy” in 2010 and notes that “people don’t come to Dutch Harbor to work 40 hour weeks.” The firm did experience some customers not paying invoices for the first time in 2009, which the owner attributed to a general downturn related to the ongoing national recession rather than any specific local factors. Overall, approximately 80 percent of the business was estimated in 2008 to be commercial fleet related, with some processor-related diving as well, a pattern confirmed to still be current in 2010. 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 or emergency types of services 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, according to 2008 interviews more business is typically associated with longline vessels than any other type. Also at that time, with relatively high fuel prices, bigger jobs were being done locally because of the expense of taking vessels to Seattle. According to the owner when interviewed in 2008, 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. More recently (2010) the owner reports that while the commercial fishing fleets seen in Unalaska now have fewer numbers of vessels, they tend to be larger vessels than in the past, and more jobs that may have stayed in Unalaska a couple of years ago are once again being done in Seattle. Harbor Welding’s range of services has expanded in the past few years with the addition of a refrigeration technician, reported to be the only qualified refrigeration tech in the community not working for one of the processing plants. Recently there have also been work opportunities associated with support of the oil industry activities in the community that have presented themselves, but support of this sector has not proven to be a major source of work for Harbor Welding as taking advantage of the work offered would have meant doing so at the expense of existing customers who are considered key for the longer term success of the enterprise.

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. Again, according to 2004 interviews, steadier work flow was preferable particularly given that high costs of steel and fuel have had begun playing much more of a role in the business than was the case in earlier years. 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 preadapt to rationalization conditions and avoid any substantial impacts. According to interviews in 2010, employment at Alpha Welding included about a half-

dozen support/administration personnel, including 2 office workers, a bookkeeper, and an accountant, along with around 13 to 14 full-time persons in the shop, including a foreman, 11 welders, and a helper, for a total of approximately 20 employees. According to management, Alpha has experienced a slow-down in work since 2009, with that year being the first instance where the shop workers experienced spare time. At present (2010), fishing-related work is estimated to account for 90 percent of the business, with the balance being work for shipping firms and the City of Unalaska. Within the fishing sector, most work is related to the head and gut fleet, with recent large jobs being running pipe on vessels, which reportedly can be done at least as economically in Unalaska as in Seattle. Alpha reportedly has two or three crab vessels as customers as well and, while those jobs have not been as large as the longline fleet jobs, crab vessels tend to be hard on gear, generating repeat work. According to 2010 interviews, Alpha “was immune” to the effects of having fewer vessels in the community as a result of rationalization of BSAI crab or other fisheries until 2009 when customers started to require an “estimate on everything” as they shopped around for services, which Alpha management attributed to changes in business practices that accompanied the general economic slow-down (the ongoing national recession). These circumstances have, in turn, also changed the relationship of Alpha to at least some other local businesses, with the example given of having worked with Magone Marine on larger jobs in the past when workloads were heavy; as of 2010 this had not happened in a couple of years. In addition to welding services, Alpha provides steel, stainless, and aluminum stock for the island, which does help diversify the customer base.

Mac Enterprises has been 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 in 2004. 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 remained in 2008 the only business in Unalaska providing watch service for more than a handful of vessels or as a full-time undertaking, which is also the case at present (2010), with boat watch services described as otherwise provided by a couple of people part-time in the community, along with Alyeska engineers and some dock workers at UniSea who watch boats tied up at those facilities, and a harbor employee who also watches a few vessels on the side.

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 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, a pattern that is still the same at present (2010). In 2008, the boat watch service component of the business was described as accounting 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

were 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 was described in 2008 as more steady since crab rationalization. Overall, in 2008 Mac Enterprises employed three full-time individuals and two to three additional divers/welders/watchmen as seasonal needs dictated and any negative impacts of crab rationalization on the business were described by the owners as having been offset by other factors. As of 2010, the business had two full-time employees (a welder and a diver/boat watch position) and two part-time employees (one dive tender who is also a boat engineer and one logistics person) in addition to the husband and wife that own the firm. Business in the welding and boat watch service areas was described as being down in the past couple of years, but up in the vessel charter business, which now accounts for approximately half of all income of the business, such that overall, business revenues have remained about the same since the time of the crab rationalization 3-year program review (2008).

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. Located in several different areas of the community over the years,⁴⁷ 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, as reported in the crab rationalization 3-year review, with a 180-foot vessel accommodated since. The next closest dry dock to Unalaska is located in Seward, and it was acquired with the assumption that with rationalization and relatively high costs of fuel, more vessels would stay longer in Unalaska and require more vessel work while they are in the community. In 2008, employment at the business was reported to have increased in then-recent years, from an estimated 25 people to a constant crew of between 40 and 42 year-round, with seasonal employees bringing the total up to 50 employees during the peak summer salvage period. As of 2010, this number was slightly lower, holding at 45 for the previous 2 years. While the business used to be locally focused, it now includes salvage work “within a thousand-mile radius,” with currently (2010) scheduled jobs encompassing work in Prince William Sound and the arctic. While the owner describes the business as being shaped by constant improvements, the overall pattern of the business as described in 2008 is confirmed to be unchanged. One issue the company continues to face, however, is difficulty of hiring crew to relocate in Unalaska, especially crew with families, given a housing market that is costly and has few available choices, particularly for what is perceived as quality family housing at a relatively affordable price. This is an important issue for the company as rotating crew into the community is reportedly quite expensive.

⁴⁷ Magone Marine began local operations in the submarine dock facility near UniSea, relocated to an area in what was then the Sea Alaska processing complex before moving to the Crowley dock area in Captains Bay, then finally relocating to its present location along Ballyhoo Road on Dutch Harbor itself.

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. As of 2010, local management reported that the split is more equal between the commercial fishing and community segments of the business than had been the case in the past. 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. As of 2008, there had apparently been comparable levels of employment at the facility in then-more recent years as well. In 2010, local management reported a total of 15 full-time positions at the facility, with the increase in employment more related to changing safety regulations and safety-related procedures than any other specific factor. As described in the crab rationalization 3-year program review, according to local management, all fishing fleets are served, depending on the season. The 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 in 2008 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. As noted in the crab rationalization 3-year program review, crab fishery-related revenue has also declined through a drop in crab pot storage at the facility. According to local management in 2010, while crab-related revenues have declined, pollock fishery-related revenues have increased at the facility, but recently all vessels seem to be doing what they can to save money, especially during the ongoing national recession, including limiting their fuel purchases in Unalaska. Delta management also observed that a number of its customer vessels that had been spending down time in the community have been returning to Seattle more recently during the off-seasons. Delta does also supply fuel by barge to other communities via the local facilities.

North Pacific Fuel operations described in the crab rationalization 3-year program review (2008) were confirmed as still accurate in 2010, except for changes noted below. 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. According to 2008 interviews, BSAI crab rationalization continued this trend and while local management reported that employment levels remained constant, employee turnover increased and overall revenues were 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 perhaps 15 percent of sales, with management interviews in 2010 confirming that crab sales were still down about 60 percent from pre-rationalization levels (roughly the same as reported in 2008). Local employment at present (2010) includes 25 full-time employees, with 18 at the fuel facilities and 6 at the gas station, which are the same levels of employment as described in 2008. A local manager interviewed in 2010 reported that North Pacific Fuel has not had any local layoffs in the 23 years that he has been working at the facility and with running a facility that has to be available to provide service 24 hours a day, 7 days a week, requires a considerable number of personnel just to meet maintenance, safety, and security regulations, factors that have driven employment levels in recent years as much as any other business conditions.

As described in the crab rationalization 3-year program review, 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, including factory trawlers and longline head and gut vessels, 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 had not had a substantial impact on the business. As of 2010, local management reported that the facility continued to be a one-stop service facility for a range of fleet segments needing cold storage, warehousing, dock, fuel, and/or gear storage services. OSI is currently (2010) in the process of upgrading their infrastructure and in one sense has come full-circle in that the facility was originally constructed to support oil exploration efforts in the Bering Sea and now is providing services to the mobile drilling rig *Kulluk* that is spending the winter of 2010–2011 in Captains Bay following support of exploratory activities for Shell Oil in the Beaufort Sea. Few crabbers use the facility at present (2010), with only two or three crab vessels described as "full service customers," but there is some crab gear storage at the

facility. A significant number of crab pots, estimated in the range of 8,000 to 12,000 pots, are stored at the facility, although according to local management few of those pots have been moving in recent seasons.

One fishery management change that has had a specific impact on local fuel sales, as noted in earlier reports, including the crab rationalization 3-year program review (2008), 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 of 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 multiservice providers.

Bait Sales

The primary commercial bait business with a year-round presence in Unalaska operates out of the Harbor Cold Storage facility. As described in the crab rationalization 3-year program review, 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, a pattern confirmed as still accurate in 2010. According to interviews in 2008, among changes in the business brought about by crab rationalization was 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, as was reported in 2008. This makes it difficult to isolate whatever the impacts of crab rationalization itself may have been because at the time of the 3-year review, quotas had risen even as fleets have shrunk. Further, this business had increased their market share in recent years by obtaining new customers. According to local management in 2008, the reduction in the number of crab vessels had not had an impact on the bait business, but again a number of forces were 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). Some bait is procured locally, including halibut heads and herring that are typically purchased from a processing company in the region. Two other main bait businesses that operate in Unalaska do not focus on the crab fleet. One of these operations specializes in squid and sardines and reportedly accounts for the largest bait sales volume in the community (but has no employees locally), while the smaller operation specializes in providing squid to the cod longline fleet. Cod vessels are also important to the Harbor Cold Storage-based bait operation, with five or six large vessels are steady customers, and it is hoped that the voluntary, industry-led cod rationalization will help lengthen the season and improve the bait market.

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 as it has since its opening in 1993, but Carl's Hotel in the downtown Unalaska area, open at the time of implementation of the crab rationalization program (2005), was no longer in business by the time of the crab rationalization 3-year program review (2008), 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 open a store in that community. As described in the earlier program review, 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 (and, in fact, underwrote some of the initial efforts to establish a local sportfishing charter capability), 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, ecotourism, and other natural resource-related trips, along with interest in Aleut cultural and World War II historic sites. Reportedly, some business is still generated when people are in Unalaska for other reasons and seek out outdoor recreational activities while in the community, but few people travel to Unalaska specifically for recreational or other tourism-related pursuits. According to UniSea senior hospitality staff, 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. At the time of the crab rationalization 3-year program review (2008), the former UniSea Inn was closed for remodeling, with plans calling for approximately 45 guest rooms, of which 25 would be available for rent to the general public. Since that time, the facility has reopened as the Harbor View Inn, This building currently (2010) houses a sports bar, a counter-order type of restaurant, a sushi bar/restaurant, and a liquor store, as well as the hotel itself.

At present (2010), the only traditional style of lodging facilities open to the general public in Unalaska are the Grand Aleutian and the Harbor View Inn, both run by UniSea, but there is also at least one bed and breakfast type of operation in the community. At the time of the 3-year program review (2008), UniSea reported that its hospitality employment, covering lodging, food, and beverage services, had increased since the implementation of crab rationalization, but that consolidation of service providers in the community had 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. According to more recent (2010) interviews, UniSea hospitality services have been generally stable, although since 2008 another four or five employees have been added at the Grand Aleutian to increase emphasis on quality of food delivery.

There have been a number of changes in food and beverage service businesses in the community since the implementation of BSAI crab rationalization. As reported in the crab rationalization 3-year program review, 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. Following the implementation of crab rationalization, but 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 (2010) operates beverage service in the Grand Aleutian and in the bar and restaurants in the Harbor View 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 the interval between the implementation of crab rationalization and the crab rationalization 3-year program review (2008) and was operating at that time under the name The 3 Amigos. This restaurant changed hands again more recently and at the time of the crab rationalization 5-year program review (2010) was operating as Dutch Harbor Fast Food, featuring pizzas, burgers, Vietnamese, and Chinese foods. The current owners of Dutch Harbor Fast Food are the same people who owned the small restaurant in the AC store space in the community until AC went out of business locally (as previously described). As described in the crab rationalization 3-year program review, an entirely new restaurant, the Crab Pot, owned by a lifetime local resident, opened in January 2008 (that is, following the implementation of crab rationalization, but before the 3-year program review) in the downtown area of the community in a building constructed in part from what were previously residential structures. By the time of the crab rationalization 5-year program review (2010), however, this restaurant was out of business and the building was standing idle. The building in the downtown

area that used to house Stormy's restaurant was vacant at the time of the 3-year program review (2008), although it was used by at least one other restaurant (owned by the then-current owners of the Peking Restaurant) following the closure of Stormy's itself, with the last restaurant closure in the building apparently occurring in 2004 (pre-crab rationalization). More recently, this building was converted to housing units.

On the Amaknak side of the community, there has been more continuity of ownership of food and beverage services over the crab rationalization era, but there have been a number of other changes over this same period. At the time of the crab rationalization 3-year program review, 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, along with food services in small restaurant/deli spaces in the Eagle and AC stores. This relative ownership stability was attributed to a number of factors. For example, the continued success of Amelia's was attributed by some to a loyal customer base, some of the members of which had 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 over the crab rationalization period,⁴⁸ the owner of the Airport Restaurant and Lounge reported that while in 2008 business was steadier during the course of the year, it was still down from its overall peak prior to crab rationalization. According to interviews in 2010, business at the Airport Restaurant and Lounge has been relatively steady since the time of the 3-year review (2008), due to daytime business from the community as well as from travelers using the airport, but there are still noticeable fluctuations associated with the fishing seasons.⁴⁹ As noted above, the deli space in what is now the Safeway (formerly Eagle) store was remodeled and expanded in 2009, as described in the general stores discussion above, while the restaurant in the AC space closed with the owners opening the Dutch Harbor Fast Food restaurant in the Unalaska Island portion of the community, also noted above.

At the time of the crab rationalization 3-year program review (2008), the Peking Restaurant had been operating in the same location since the 1980s but with 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 20 percent local residents and the balance fishermen and processors, however, a loss of fishermen had been felt in terms of overall revenue. According to an estimate made by the owner during a 2008 interview, crab fishery-related business was estimated to account for 20 to 25 percent of the business, whereas before rationalization it was estimated to have made up to 35 to 40 percent of the business. Further revenue challenges had resulted from a good share of the business depending on its free delivery service, and with increases in the price of fuel, this had cut into business profitability. By the time of the crab rationalization 5-year program review (2010), the Peking Restaurant was out of business due to a fire that occurred in early 2010 in a nearby space in the building it shared with a number of other businesses.

⁴⁸ The airport restaurant and bar were originally owned and operated by UniSea, but UniSea was not the owner for several years prior to the implementation of crab rationalization.

⁴⁹ The owners of the Airport Restaurant and Lounge in Unalaska currently (2010) operate a seasonal restaurant in Akutan as well, and as they did at the time of the crab rationalization 3-year program review (2008).

Like so many other support service 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 for 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 interviews in 2008, although revenues were not broken out by client segment so no quantitative information was available to illustrate trends, Northport's business had 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 had been more than offset by other factors. Also as reported in 2008, the company had continued to grow through the years, likely due to market share growth as well as through overall business development growth. As of 2010, according to local management, Northport employment was down to four full-time individuals and one part-time student, and while overall numbers had been down due to a number of factors, including a decline in the vitality of the cod fishery, crab rationalization is still seen as not impacting the revenue stream for Northport vehicle rentals, in part because Northport has a smaller local vehicle fleet than the competition, so it is easier to make up revenue elsewhere. At least some additional crab fishery-related business income is generated at present by production crews working on the "Deadliest Catch" television series that is filmed in part in the community and on vessels working out of the community.

According to 2008 interviews with local management at B.C. Rentals, crab rationalization had resulted in an overall decline in business revenues for that firm. As of 2008, B.C. Rentals typically employed 10 full-time people during A and B seasons and had about 7 full-time employees during the slow seasons. Although quantitative information broken out by customer type is not available, the owner reported that business had declined significantly. While B.C. Rentals counted perhaps 100 crab vessels among their customers prior to rationalization, by 2008 this number had dropped to perhaps 60, with 20 to 30 vehicles rented per day at the most during the busy periods for crab as the seasons were more spread out. As of 2010, peak employment was reported to be six full-time employees for a few weeks during A and B seasons and four full-time employees during the slower parts of the year, a substantial decline since 2008. The number of crab vessels estimated by the owner to be regular customers of the business had declined to around 30 by 2008 as well. In sum, the impacts of crab rationalization on the rental vehicle businesses 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.

As noted in the crab rationalization 3-year program review, beyond impacts to any particular type of "other" support business sectors, individuals in multiple interviews have 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 2008 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, were 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 has become 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, APL 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 transshipment elsewhere. (As described in the crab rationalization 3-year program review, 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 transshipment 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 opened 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 interviewed in 2004, 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, construction on a large project designed to address this need, particularly for the offshore fleet, was taking place in the community at the time of the crab rationalization 3-year program review (2008) and has subsequently been completed. 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 Captains Bay. As of 2008, there also appeared to be proportionately more offshore-related volume going across municipal docks than was the case in previous years, and city revenue from dockage and wharfage had risen in general. These two factors reinforced the general observation, noted in 2004 interviews, that shipping-related business was becoming less concentrated among the formerly dominant local entities and more widespread among various smaller entities. While this same pattern of dispersal is still evident at present (2010), offshore-related volume going across municipal docks has declined with the completion of new private-sector facilities in the community, as described stevedoring discussion below.

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 International Longshore and Warehouse 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, Horizon/Maersk, and Northstar are served by the union, Northland has their own crew of employees who work as stevedores, while Pacific Stevedores serves trampers and other shipping entities that call on the community and assists Samson with trucking and supplemental labor, with their role in the community growing in recent years. Dutch Harbor Services, a company owned by Pacific Stevedores and whose operations are coordinated with Pacific Stevedores in Unalaska (including sharing a common labor pool), serves the Coastal Transportation dock facility at East Point as well, and the firms also provide services at the Crowley Marine facility in Captains Bay as well as to vessels anchored in Captains Bay.

As described in the crab rationalization 3-year program review, 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 employed between 60 and 100 individuals in the community. According to more recent interviews, while peak numbers have remained the same, Pacific Stevedoring now employs approximately 40 people in Unalaska during off-seasons, typically because workers tend to not want to stay in the community during off-season times. Pacific Stevedoring provides bunkhouse facilities near East Point and near the head of Dutch Harbor in Unalaska, as labor and housing demand fluctuate as workers “follow the fish” between communities for work assignments. 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, and local management reported that they are not involved in moving any crab at present (2010). As a result, Pacific Stevedoring, according to local management, has been unaffected by crab rationalization. At the time of the crab rationalization 3-year program review (2008), Pacific Stevedoring was managing a local harbor construction project for Dutch Harbor Ports, funded by American Seafoods and Glacier Fish Company, that is being built by West Construction. With a planned 970 feet of continuous dock and a large cold storage capacity, the facility was being designed primarily for offshore fishing sector support but also designed to have the capabilities of supporting all the fleets that work out of Unalaska. The facility was also planned to have dry storage, but this capacity was considered of secondary importance due to the existence of dry storage capacity available for lease from the Ounalashka Corporation.

The new cold storage facility, branded as a Kloosterboer but also owned in part by American Seafoods and Glacier Fish according to local management interviews, opened in July 2009, although the dock portion of the complex had opened at an earlier date. According to interviews with local Pacific Stevedoring management, both the dock and the cold storage facility are managed by Pacific Stevedoring for Kloosterboer, which charges customers in and out fees by the ton. Also according to interviews, the facility has the capacity to hold approximately 25,000 tons of product and to date (2010) has held up to 20,000 tons at any one time. Most of the product stored to date has been pollock, as American Seafoods and Glacier Fish, at-sea processing firms, are the facility’s largest customers, but there has been other cargo storage at the facility, including longline cod and bait. Although dry storage capacity is a possibility for later project phases, the project as built to date does not include dry storage, nor is dry storage planned for the next phase of the project, which, according to interviews with local management, will be pursued in the near future and essentially double the existing capacity of the facility.

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 that regularly operates 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 (the same level of employment reported in the crab rationalization 3-year program review [2008]), down from seven employees under the pre-AFA Olympic system. Transshipments 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 was involved in funding the recently opened large dock and cold storage capacity improvement project and, as the major partner in the project, they have priority for use of the new facility, which has the ability to efficiently offload product from catcher processors into cold storage for subsequent transfer to shipping vessels. While American Seafoods has retained at least some of their own equipment for offloads, Pacific Stevedoring manages and staffs operations at the facility, and utilizes their own equipment to do so. At the time of the crab rationalization 3-year program review, American Seafoods rented four Ounalashka Corporation warehouses for dry storage, but no longer does so at present (2010), as it has taken over the lease on the building on Ballyhoo Road that was formerly the site of Alaska Ship Supply (before that business moved to its present location near the Grand Aleutian). Pacific Stevedoring and Kloosterboer, in turn, rent space in the American Seafoods leased building. 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, such as the halibut, pollock, and crab 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, especially 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 gains 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 10 to 15 years 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.⁵⁰ The Museum of the Aleutians opened in 1999 and is the only archaeological research and museum storage facility in the region.⁵¹ 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.⁵²

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 weighing in at 459 pounds. According to earlier (2004) interviews with sector participants, in the mid-2000s there were still 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. According to knowledgeable local sources in 2010, no derby has been held in recent years. As of 2008, according to local interviews, only one individual was still running fishing charters on a more-or-less regular basis, which is reportedly still the case at present (2010). 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, such as National Geographic, as well as private individuals), along

⁵⁰ 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.

⁵¹ 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.

⁵² 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.

with some small-scale freight hauling to Akutan and outlying areas. According to one charter operator in earlier interviews, 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 during previous interviews (2004, 2008) the local Convention and Visitors Bureau and Ounalashka Corporation management estimated that approximately 7 to 10 cruise ships per year called on the community in recent years. One cruise ship specializing in ecological tours made a total of four calls in 2004. According to the city’s ports department, in 2010 a total of three cruise ships called on Unalaska. The *Clipper Odyssey*, with approximately 100 passengers, called on Unalaska twice (once in June and once in July), while the *Seven Seas* and the *Silver Shadow Navigator*, with approximately 300 passengers per vessel, each made one call on the community in September. According to a senior person in the local hospitality industry, the cruise ships that call on Unalaska are not doing so as a destination stop; rather, they are typically stopping for a brief period on a trans-Pacific voyage. The Alaska state ferry system also brings some level of tourism to the community during the April through October service window. In 2010, again according to the city’s ports department, the ferry *MV Tustumena* called on Unalaska once each during the months of April, September, and October, and twice per month during the months of May through August. 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, and according to 2010, this policy was still in place.⁵³ Table 2.1-17 provides information on

⁵³ This policy is intended to address at least some of the problems that would typically occur as a result of residents not always being able to predict the timing of personal travel needs as far in advance as fishing industry firms (who can predict travel based on known fishing season demand periods), leading to periods when fishing industry-related travel would effectively block personal travel into and/or out of the community for substantial periods of time because of capacity limitations.

Table 2.1-17. City of Unalaska, Port of Dutch Harbor Airport Passenger Count by Quarter, 1995–2009

Quarter	Calendar Year														
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
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	14,676	12,479
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	15,002	14,812
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	13,493	13,813
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	12,840	11,253
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	56,011	52,357

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 spreadsheets supplied by City of Unalaska Finance Department, 2008 and 2010. Data were originally configured in fiscal year format, not calendar year format.

passenger counts at the community airport for the period 1995 through 2009. 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.⁵⁴ Counts in the first quarters of 2006, 2007, and 2008, when most opilio activity is seen, were higher than 2003 and 2004 counts, if lower than analogous 2005 counts, but first quarter 2009 counts are lower than any other first quarter 1995 through 2008. Counts for the last quarters of 2005 through 2009, when most king crab activity takes place, were all lower than the analogous count for 2004, with the fourth quarter count in 2009 being the lowest fourth quarter count of the 1995–2009 span.

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 crab rationalization 3-year program review (2008), additional businesses had closed during the first few years of the crab rationalization era, both in direct fishery support and other sectors, although a number of other businesses had 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. As noted in the discussions above, business turnover in the community has continued to the present (2010), although the extent of these changes has varied by specific service areas. Construction projects continue to provide local employment on a project-by-project basis with several projects occurring at the time of the crab rationalization 5-year program review fieldwork (September/October 2010), including a new small boat harbor on the Little South America portion of Amaknak Island (scheduled for full operational opening in the fall of 2011) and an upgrade of the municipal power plant (scheduled for completion in the

⁵⁴ 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 at various times over the years, Unalaska today (2010) remains without regularly scheduled jet service.

winter of 2010/2011), along with a number of smaller projects, such as an expansion of the community center and the construction of housing units for the city workers. As previously noted, there is some optimism in the community that there will be continued opportunities to supply services to the offshore oil industry, or companies that support the offshore oil industry, with interest particularly sparked by a Shell Oil company drill rig that was wintering in Captains Bay during the winter of 2010/2011, and which, according to senior municipal officials, brought with it a crew of approximately 40 individuals to the community.

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, the Unalaska/Dutch Harbor Community Medical Center (run by Iliuliuk Family & Health Services, Inc.), 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 physician in September 2002. This marked the first time in a number of years that the community had access to physician care by appointment (other than through rotating doctors from outside of the community). More recently, the clinic has increased its total number of primary service providers, but has not increased the number of full-time equivalent positions at the same rate. At present (2010) the clinic has four physician positions (including three part-time) and three mid-level provider positions (including two full-time and one part-time physician’s assistant personnel [with the part-time position filled by the individual who is also the Unalaska City School District nurse]). 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. The clinic also has three registered nurses on staff. 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 or eight persons providing medical assistant services, currently (2010) including three full-time medical assistant positions, including the floor coordinator; four part-time positions; and one volunteer, along with one full-time case management/referral position and one full-time dispensary position, allowing the clinic to run between four and five medical assistants at a time. Most of these individuals are also qualified as emergency medical technicians, or, in one case, as a paramedic, and are in the call rotation for emergency services. Other full-time service provision personnel include three x-ray/lab technicians, two behavioral health specialists, a dentist, and a dental assistant. 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; staff include two mid-level providers, a community health aide, and two community outreach workers, two behavioral health practitioners, and ancillary staff. 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 2010.

Recently, there have been changes in the way care is offered at the clinic that are 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 shift approach to urgent care, splitting providers into an urgent care shift and an appointment/clinical side shift, with the goal being that the appointment/clinical side shift could keep the clinic running to meet the service needs of the residential population on an

Table 2.1-18. Unalaska/Dutch Harbor Community Medical Center, Iliuliuk Family and Health Services, Selected Patient Statistics and Total Revenues, Fiscal Years 1999–2010

Patient Services/ Visits	Fiscal Year											
	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Office Visits*	7,024	6,835	8,279	7,945	9,347	9,369	11,050	10,549	10,269	9,981	8,358	6,378
Medivacs**	55	68	40	41	466	393	688	1,192	581	1,468	752	75
Emergencies	541	428	393	548	443	592	644	707	673	675	624	1,230
Ambulance Runs	141	162	181	212	176	161	168	200	229	179	191	162
X-Rays	2,665	2,439	2,820	3,162	3,000	2,612	2,620	2,897	3,083	2,910	2,413	1,921
Patients Registered	9,517	9,585	9,833	9,458	10,666	11,363	13,548	12,728	12,428	12,646	11,174	10,854
Unique Patient Counts***				4,466	4,813	4,804	4,957	4,959	4,628	4,863	4,262	--
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	\$4,945,910	\$4,960,895	\$3,964,097

* Office visits include Emergency Room visits and support services.

** Medivacs include ambulance service, emergency medical technician escorts, and clinical support call-out. 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. Conversion to a new data system required manual adjustment of the Medivacs and Emergencies numbers via phone with the Medical Center Administrator 10/20/10. FY 2010 numbers for Medivacs and Emergencies should be thought of as a combined number rather than split out due to apparent inconsistencies in internal category assignments.

*** Unique patient counts are taken on a calendar year, not a fiscal year basis, Totals for 2010 are not yet available at the time of this writing.

Source: Iliuliuk Family and Health Services - Unalaska/Dutch Harbor Community Medical Center spreadsheet/personal communication S. Handforth-Kome, January 2002, June 2004, May 2008, and September 2010.

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 shift 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 has been successful since that time. 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. More recent trends have included a dropping number of overall clinic visits, prompting current (2010) increased outreach and community health needs assessment efforts.

Unalaska Department of Public Safety

The Unalaska Department of Public Safety provides a range of services to the community. According to senior management in 2010, in addition to a director, department personnel include 9 law enforcement officers, 4 sergeants, 1 first sergeant, 5 officers assigned to the jail, 5 dispatchers, 1 animal control officer, 1 department of motor vehicles person, 1 emergency medical services captain, 1 fire chief, and 2 paid firefighters, for a total of 31 paid employees, the same level of employment reported at the time of the crab rationalization 3-year program review (2008), supplemented by approximately 35 fire/emergency medical service volunteers. According to the director, the current (2010) tight housing market in Unalaska, and especially a shortage of good rental housing that will allow children and pets, presents a challenge in recruiting personnel, especially senior personnel, from outside of the community. 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 individuals booked into the Unalaska jail, as described in the crab rationalization 3-year program review. Table 2.1-19 provides information on the number of inmates per month FY 1998 through FY 2010. (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 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 a 2008 interview with the director, conditions at that time were 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 the years prior to 2008, 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, a pattern still described as being the case at present (2010).

Table 2.1-19. City of Unalaska Department of Public Safety, Number of Inmates by Month Fiscal Years 1998–2010

Month	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
July	38	26	26	29	29	21	28	39	43	33	35	40	24
August	41	26	29	23	33	51	53	25	43	44	36	26	37
September	34	34	29	24	37	36	35	28	22	38	36	25	31
October	60	49	34	39	51	55	53	42	47	34	36	30	25
November	35	47	15	23	32	35	25	32	31	34	28	28	19
December	36	25	10	21	22	23	27	31	28	22	25	19	18
January	37	37	23	24	25	48	47	34	28	36	34	33	27
February	42	44	46	31	58	38	57	36	33	55	53	29	29
March	53	48	39	33	45	40	62	25	43	44	55	41	27
April	39	24	57	32	40	31	37	24	23	28	31	29	45
May	35	31	26	27	27	38	19	32	20	41	20	20	12
June	33	36	30	15	21	37	36	43	34	34	31	17	26
Total	483	427	364	321	420	453	479	391	395	443	420	337	320
Average	40.25	35.58	30.33	26.75	35.00	37.75	39.92	32.58	32.92	36.92	35.00	28.08	26.67

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; September 2010.

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 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 U.S. Customs and Immigration and Naturalization Service personnel and offices in the community as well.

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 (DCED). This information parallels the information presented for the other study communities.

Table 2.1-20. Unalaska Municipal Revenues, 1999–2008

Revenue Source	1999	2000	2001	2002	2003	2004	2005	2006	2007*	2008
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	--	\$20,231,521
License/Permits	\$13,687	\$22,018	\$0	\$18,235	\$18,610	\$0	\$0	\$0	--	\$0
Service Charges	\$566,459	\$586,947	\$1,278,988	\$617,823	\$650,198	\$897,644	\$1,343,231	\$1,469,827	--	\$1,346,890
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	--	\$22,750,713
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	--	\$5,443,087
<i>Total Local Operating Revenues</i>	<i>\$26,152,130</i>	<i>\$27,691,890</i>	<i>\$30,412,209</i>	<i>\$30,187,763</i>	<i>\$31,063,129</i>	<i>\$32,079,398</i>	<i>\$35,832,456</i>	<i>\$41,281,359</i>	--	<i>\$49,772,211</i>
Outside Operating Revenues										
Federal Operating	\$336,193	\$193,065	\$171,089	\$963,821	\$321,496	\$421,434	\$906,024	\$872,554	--	\$872,448
State Revenue Sharing	\$201,088	\$129,402	\$103,053	\$106,462	\$106,094	\$0	\$0	\$0	--	\$0
State Municipal Assistance	\$125,281	\$83,312	\$72,457	\$78,721	\$79,220	\$0	\$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	--	\$8,271,467
Other State Revenue	\$1,083,384	\$1,073,143	\$1,092,958	\$557,030	\$0	\$340,426	\$0	\$0	--	\$627,035
Other Intergovernmental	\$0	\$0	\$150,464	\$231,831	\$1,114,823	\$0	\$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	--	\$5,674,451
<i>Total Outside Revenues</i>	<i>\$9,213,711</i>	<i>\$8,640,782</i>	<i>\$10,076,641</i>	<i>\$10,778,842</i>	<i>\$12,372,404</i>	<i>\$9,898,528</i>	<i>\$11,876,674</i>	<i>\$11,598,923</i>	--	<i>\$15,445,401</i>
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	--	\$65,217,612
Operating Revenue per Capita	\$8,465	\$8,483	\$9,453	\$10,113	\$9,899	\$9,614	\$11,102	\$13,421	--	\$18,365
State/Federal Capital Project Revenues	\$217,144	\$6,828,094	\$309,012	\$6,976,007	\$0	\$32,601	\$514,033	\$550,555	--	\$515,015
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	--	\$65,732,627
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	--	\$61,549,062

* Comparable Unalaska summary data for 2007 were not compiled by the State.
Source: DCED personal communication, spreadsheet supplied July 2008; September 2010.

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).⁵⁵ 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 2010. As shown, this figure has varied between 35 percent and 46 percent over this time span.

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 port, 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 when interviewed in 2008, 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,

⁵⁵ As described in the crab rationalization 3-year program review, 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 2 fiscal years [e.g., shared taxes accrued in January 2000 received in September 2001 would have been based on sales that took place in fiscal year (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 2.1-21. City of Unalaska General Fund, Fiscal Years 1998–2009

Revenues	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
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	2,898,809	2,892,375
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	1,380,844	1,367,574
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	4,689,810	4,619,222
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	7,348,387	6,913,131
Other Taxes	439,735	516,863	509,434	524,195	563,576	89,808	44,510	92,071	66,592	61,033	29,015	93,933
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	14,608,325	16,346,865	15,886,235
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	10,695,376	12,306,612
Charges for Services	278,703	282,778	279,159	300,809	356,449	367,364	360,732	371,500	371,807	304,496	258,147	316,977
Permits & Licenses	19,546	13,687	22,018	20,265	18,235	18,610	20,725	19,957	18,700	20,623	22,500	18,400
Miscellaneous	2,407,515	2,099,082	1,954,352	3,436,551	3,078,965	40,499	335,064	--	--	61,905	--	61,041
Interest Earnings	--	--	--	--	--	2,778,566	370,195	5,203,848	1,855,708	4,165,524	5,266,549	5,618,305
Other Financing Sources	386,895	273,416	461,817	398,153	172,440	346,390	39,881	37,358	100,000	545,943	311,239	4,647,525
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	5,858,435	10,662,248
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	30,791,407	32,900,676	38,855,095

Source: City of Unalaska Finance Department spreadsheet, 2001; Personal communication with John Voss, City Finance Director, 2001, 2002; City of Unalaska Finance Department spreadsheets, 2008 and 2010.

Table 2.1-22. City of Unalaska Selected Fisheries-Related General Fund Revenues (in dollars), Fiscal Years 1991–2010

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
FY 2008	\$4,689,810	\$3,909,016	\$4,362,451	\$12,961,277
FY 2009	\$4,619,222	\$3,877,701	\$5,200,897	\$13,697,820
FY 2010*	\$3,594,173	\$4,547,084	\$4,676,603	\$12,817,860

*FY 2010 numbers are unaudited (audited numbers not yet available at the time of fieldwork).

Source: City of Unalaska Finance Department spreadsheet originally supplied in 2001 and updated December 2004, May 2008, and September 2010.

Table 2.1-23. City of Unalaska General Fund Revenue and Direct Fishery Revenue as a Percentage of Total General Fund Revenues, Fiscal Years 2000–2010

Fiscal 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%
FY 2008	\$16,346,865	\$10,695,376	\$5,858,435	\$32,900,676	\$12,961,277	39.40%
FY 2009	\$15,886,235	\$12,306,612	\$10,662,248	\$38,855,095	\$13,697,820	35.25%
FY 2010**	\$13,708,340	\$12,742,325	\$4,463,752	\$30,914,418	\$12,817,860	41.46%

* 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.

** FY 2010 numbers are unaudited (audited numbers not yet available at the time of fieldwork).

Source: Derived from City of Unalaska Finance Department spreadsheets supplied December 2004, May 2008, September 2010, and October 2010.

“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. This was confirmed to be the case in 2010 as well.

According to a 2008 interview with 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 2010 is presented in Table 2.1-24. As shown, total revenues increased each year during this period, with the exceptions of FY 2007, FY 2009, and FY 2010. 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 2006 and especially 2007, this was primarily attributed by port staff to a large portion of the facility being closed for rebuilding rather than any fishery-related cause, and revenues have rebounded in the years following the completion of the rebuilding project. There has, however, been a decrease in use of the city’s light cargo dock for crab 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). In 2008 and 2009, 1,977 and 675 crab pots, respectively, moved across the city's light cargo dock (personal communication, Unalaska harbor staff, 2010, calculated off monthly harbor summary spreadsheets). A decline in revenues at the Unalaska Marine Center dock was evident in FY 2009, which corresponds with the opening of the large private sector cold storage dock (described above), now the site of substantial at-sea processing vessel product transfer activity (among other activities) that formerly took place at the Unalaska Marine Center dock. Senior financial staff point out, however, there are other municipal revenues generated by this new private sector facility that are not seen in port revenues specifically, such as an increase in property tax. Also according to city financial staff, in FY 2010 there was an increase in activity at the Unalaska Marine Center dock as a result of the APL crane toppling in a wind storm (in December 2009), with the result that operations producing about one-half million dollars in revenue to the city took place at the Unalaska Marine Center dock that would have otherwise taken place at the APL facility.

Table 2.1-24. City of Unalaska Ports Revenue Fiscal Years 2000–2010

Fiscal Year	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
FY 2008	\$3,871,742	\$582,444	\$102,974	\$284,315	\$10,748	\$4,852,223
FY 2009	\$2,781,874	\$619,219	\$100,346	\$198,376	\$52,300	\$3,752,114
FY 2010*	\$3,136,473	\$599,696	\$107,748	\$87,655	\$75,962	\$4,004,534

* FY 2010 numbers are unaudited (audited numbers not yet available at the time of fieldwork).

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 spreadsheets supplied May 2008, September 2010, and October 2010.

According to harbor department management interviews in 2008, however, even with BSAI crab rationalization, the community still could use more dock space in general, and more space for crab vessels in particular. At that time a small boat harbor for “Little South America” on Amaknak Island was in the planning stages, with the breakwater construction then being out to bid, which would be designed to accommodate vessels from 60 feet up to 150 feet and is primarily intended for the crab fleet. As of 2010, the construction of this small boat harbor was nearing completion. Current (2010) schedules call for upland construction to be completed in

2010, floats to be installed in the spring of 2011, and the harbor to be fully operational by November 2011. 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, vessel skippers typically talk with each other and if there is no space available, they make alternate plans often without ever contacting the port. It is assumed that Unalaska has a competitive advantage over some harbors in other regional communities, however, given the amenities and level of support services available in the community. As of 2008, harbor staffing levels had been steady over the past several years, with a director, a harbormaster, six officers, and two office staff, including a billing person and a scheduling person. As of 2010, staffing levels were the same except for a reduction of one office staff member, with the functions of billing and scheduling, formerly assigned to two people, now assigned to one person.

2.2 ST. PAUL

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

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

2.2.1 Overview

The first reported sightings of St. Paul Island by Europeans were made by seal hunters in 1787 who were left behind by Gavril Pribilof to search for prime fur seal hunting areas. The island was originally coined St. Peter and St. Paul Island by the European explorers because it was spotted on June 29, the feast day for both saints. Although uninhabited at the time of the European landing, the Pribilof Islands had been known by nearby Aleut peoples by the name “Aamax, a rich hunting ground once visited by an Aleut chief lost in a storm” (Corbett and Swibold 2000 in Sepez et al. 2005:375). Russian missionaries called the Pribilofs “the place that God forgot” because of the poor weather that can sometimes overtake the islands, including thick fog, high winds, and torrential rains (Corbett and Swibold 2000 in Sepez et al. 2005:375).

The Pribilof Islands have been called “The Galapagos of the North” due to the rich biodiversity present on both islands and the “Islands of the Seals” due the large colonies present on the islands. Among this wildlife is the largest concentration of northern fur seals in the world, which annually breed on both islands. These breeding grounds became prime areas for the commercial fur seal harvest in the 18th century. Beginning in 1788, the Russian American Company relocated indentured or enslaved Aleuts from Siberia, Atka, and Unalaska to the Pribilofs to hunt fur seals, and the contemporary population of both St. Paul and St. George trace their ancestry to those original hunters. The island was administered by the Russian American Company until the sale and transfer of Alaska from Russia to the United States in 1867.

In 1870, the Alaska Commercial Company was awarded a 20-year sealing lease by the U.S. Government and provided housing, food, and medical care to the Aleuts in exchange for seal harvesting. In 1890, a second 20-year lease was awarded to the North American Commercial Company. However, the fur seals had been overharvested and a period of severe local poverty ensued. The 1910 Fur Seal Act ended private leasing on the islands and placed the community and fur seals under the administration of the U.S. Bureau of Fisheries. Food and clothing were scarce, social and racial segregation was practiced, and working conditions were poor.

During World War II, the Pribilof Aleuts were moved to Admiralty Island in southeast Alaska as part of the evacuation of civilian residents from the Bering Sea. St. Paul residents were confined to an abandoned cannery at Funter Bay. By the mid-1960s, Aleuts had gained a number of important previously denied civil rights from the passage of the Fur Seal Act of 1966, also

known as the Bartlett Act. This act was named after Alaska Senator Bob Bartlett, who traveled to the Pribilofs and published a book on his experience, which detailed the islanders' situation. Passage of the act resulted in the transfer of the houses and government land into private Pribilovian ownership, gave St. Paul the freedom to incorporate as a city under Alaska state law, and recognized that those residents who had worked for the government before 1950 were eligible for retirement benefits. Following these changes, the Public Health Service took control of the clinic, and the State of Alaska took control of the school (Henning 1982). Finally, in 1979, Pribilof residents received \$8.5 million in partial compensation for the treatment to which they were subjected by the U.S. government from 1870 to 1946 (Sepez et al. 2005).

In 1983, Congress passed the Fur Seal Act Amendments, which ended government control of the commercial seal harvest and the effective federal domination of daily life on the island. Responsibility for providing community services and management of the fur seals was left to local entities. Commercial harvests on St. Paul ended around this same time (while commercial sealing had ceased on St. George a decade earlier), despite an assumption that they would be phased out over a period of time.⁵⁶ Takes of fur seals are now prohibited except by Alaska Natives for subsistence purposes (with a local subsistence harvest still occurring annually).⁵⁷

As a part of the Fur Seal Act Amendments, “In order to promote the development of a stable, self-sufficient, enduring, and diversified economy not dependent on sealing, the Secretary [of Commerce] shall cause to be established a Trust for the benefit of the Natives of the Pribilof Islands” (Title 16 of the US Code Section 1166(a)(1)). As part of this transition from sealing, funds totaling \$20 million were provided to help develop and diversify the Pribilof economy—\$12 million to St. Paul and \$8 million to St. George. On St. Paul, most of the transition funds were used to upgrade inadequate community infrastructure, including major investments in the harbor. The federal government in 1983 also apparently assumed that the State of Alaska would provide substantial harbor improvement funding to supplement the federal transition funds, but the state was seemingly not in a position to do so. Thus, federal withdrawal took place without commercial sealing continuing at least for some time during a transitional phase-out period, state assumption of the harbor development project, or substantial continuing funding available for economic development and diversification, all key assumptions for the development of a self-sustaining local economy.

Contemporary St. Paul is a port for the central Bering Sea fishing fleet, and port and harbor improvements have been the basis for recent economic development. The local commercial halibut fishery got its start in 1981, and a crab processing shore plant was built several years later. Local residents hold commercial fishing permits for halibut, with some fishing their own halibut Individual Fishing Quotas (IFQs), Community Development Quota (CDQ) halibut, or both.

2.2.2 Community Demographics

As briefly outlined above, St. Paul has yet an entirely different origin than the other communities profiled (other than nearby St. George). The contemporary community traces its roots directly to

⁵⁶ Apparently commercial sealing was stopped on the *St. Paul* specifically as a result of the U.S. Senate failing to ratify the Fur Seal Treaty in 1984.

⁵⁷ Further, possession and use of fur seal pelts or other products are now prohibited, except in the case of some Alaska Native traditional or craft uses.

the forced migration and population of a commercial sealing outpost on previously uninhabited lands under Russian dominion. In this way it does not have the continuity to a prehistoric past like Unalaska, an original foundation in the commercial fishery like King Cove, or a grounding in military exigencies like Adak. St. Paul (along with neighboring St. George) has by far the largest proportion of Alaska Natives relative to total population of any of the communities profiled. As with these other communities, however, local residents perceive the fishing industry as the best economic opportunity for the community, especially given St. Paul's status as a CDQ community, the potential advantages for development this status entails, and the success already enjoyed through the undertakings of the Central Bering Sea Fishermen's Association (CBSFA), the local CDQ organization.

2.2.2.1 Total Population

Information on the total population of St. Paul by decade for the past 120 years is presented in Table 2.2-1. St. Paul Island had a total population of 532 people in 2000 and of those 55.3 percent were male and 44.7 percent were female. As shown, the population declined between 1880 and 1910, but increased every decade between 1910 and 1990. Between 1990 and 2000, however, the population declined by approximately 30 percent. This can perhaps be at least partially accounted for by a reduction in the enumeration of fish processing employees (see discussion of ethnicity below). The long-term construction of the harbor began in 1984 and, while projects continue, it was officially opened August 3, 1990. Thus, the contracted labor force for this (and other) projects may have also peaked in 1990. Current adverse local (and regional) economic conditions may also be contributing to an overall population decline. Current estimations by city staff put the population in 2007 between 432 and 450, a marked decline from the level seen in 2000. In 2010, the estimated population had grown slightly to 459.

Table 2.2-1. Population by Decade, St. Paul, 1880–2000

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

Source: DCRA 2007; U.S. Census Bureau 2007b.

2.2.2.2 Ethnicity

Table 2.2-2 presents information on ethnicity of the St. Paul population for 1990 and 2000. As shown, the 2000 population is considerably less diverse than the 1990 population. In 1990,

Alaska Natives accounted for two-thirds of the total population, while in 2000 the population was 86 percent Alaska Native. African Americans and Hispanics, present in the 1990 census, were absent in 2000, while Asian/Pacific Islanders and “Other” individuals were present at less than 10 percent of their 1990 totals. These minority groups are characteristically significant components of the fish processing workforce in western Alaska and are typically absent in western Alaska communities with no fish processing.

Table 2.2-2. Ethnic Composition of Population, St. Paul, 1990 and 2000

Race/Ethnicity	1990		2000	
	Number	Percent	Number	Percent
White	164	21.5%	69	13.0%
Black or African American	12	1.6%	0	0.0%
American Indian, Eskimo, Aleut	504	66.0%	457	85.9%
Asian or Pacific Islander*	44	5.8%	3	0.6%
Other**	39	5.1%	3	0.6%
Total Population	763	100%	532	100%
Hispanic origin, any race***	62	8.1%	0	0.0%

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

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

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

Source: U.S. Census Bureau, 2007a, 2007b.

2.2.2.3 Age and Sex

Table 2.2-3 provides information on the age and the male/female ratio of St. Paul’s population in 1990 and 2000. As shown, there was a larger male to female imbalance in 1990 than is seen in 2000. This, like the changes seen in overall population, ethnic composition of the population, and proportion of the population living in group quarters, can be attributed to the lack of a transitory or mobile labor force in 2000, which has resulted in the community having less of an “industrial” or “institutional” type of population and more of a “residential” type of community population.

Table 2.2-3. Population by Age and Sex, St. Paul, 1990 and 2000

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

Source: U.S. Census Bureau 2007a, 2007b.

The St. Paul school, a part of the Pribilof School District, provides kindergarten through twelfth grade classes. School enrollment figures for the Fiscal Year (FY) 1993–FY 2011 period are displayed in Table 2.2-4, with year dates denoting the end of the school year. As shown, student counts during this span peaked in 1995, and the current (2010/2011 school year) enrollment is less than half of that seen in 1995. Of the 75 students currently enrolled, 70 are children of local

residents employed by the major employers on the island, including local, regional, federal, and tribal governments; TDX; CBSFA; PenAir; the local store; and the clinic. Five students are children of visiting teachers. At the time of the crab rationalization 3-year program review (2008), weather service personnel also had children enrolled at the St. Paul school, but this is no longer the case. As of the 2010/2011 school year, there are no children of transient processor staff enrolled at the school, but it is unknown if (or how many) children of Trident-employed residents considered “local” are enrolled. According to senior school staff, currently there are approximately 11 local residents attending high school “off-island” at Mt. Edgecumbe or at Galena Interior Learning Academy. Until the early 1990s, the St. Paul school only provided education through the tenth grade, and all eleventh- and twelfth-grade students attended school off-island. Thus, while there is strong community support for the local school, there is also a strong local tradition of attending high school off-island (Carden, personal communication, 2002). While there are difficulties associated with attending school off-island, some find it attractive due to the opportunity to participate in a wide range of sports, a more diverse curriculum and with more numerous electives and after-school activities, and, as one interviewee described it, the opportunity to date and interact socially with people with whom you are not related.

Table 2.2-4. School Enrollment, St. Paul, FY 1993–FY 2011

Fiscal Year	Student Count
1993	118
1994	127
1995	153
1996	141
1997	140
1998	127
1999	121
2000	114
2001	110
2002	116
2003	125
2004	125
2005	115
2006	89
2007	100
2008	89
2009	89
2010	81
2011	75

Note: Fiscal year designation notes the calendar year in school year ended (e.g., 2003 refers to the 2002–2003 school year).

Source: School district staff, personal communication, 2002; J. Stacks, personal communication, 2007; 2010.

2.2.2.4 Housing Types and Population Segments

Group housing in St. Paul has historically been largely associated with federal employment, temporary construction projects, and seafood processing. Federal employment declined significantly prior to 1990 and so is probably not a major component of the population

differences between 1990 and 2000. As shown in Table 2.2-5, 26 percent of the population lived in group housing in 1990, but only 4 percent did so in 2000. This sharp drop is attributable to a reduction in enumeration of fish processing employees (but whether this was due only to a decline in such activity, or at least partially to change in the timing of such activity, is not clear). It is also likely a function of a decline in “special projects” (with outside workers) as well.

Table 2.2-5. Group Quarters Housing Information, St. Paul, 1990 and 2000

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

Source: U.S. Census Bureau 2007a, 2007b.

Table 2.2-6 provides 1990 census information on group housing and ethnicity for St. Paul and Table 2.2-7 provides similar information for 2000. Housing data from 1990 show two very different demographic sets living in group quarters and non-group quarters housing, which is typical of a community in which commercial processing occurs. Group quarters housing contained 196 individuals, or just over 25 percent of the total number of people in St. Paul. Of these 196 individuals, 52 percent were considered minorities, with 21.4 percent responding as “Asian or Pacific Islander.” Meanwhile, in non-group quarters housing, 88.2 percent considered themselves American Indian, Eskimo, or Aleut, contrasted with the 2 percent in group quarters housing. The proportions of whites and blacks were also highly different between the two housing sets, with whites and blacks in higher proportions in group quarters than in non-group quarters housing.

Table 2.2-6. Ethnicity and Group Quarters Housing Information, St. Paul, 1990

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

Source: U.S. Census Bureau 2007a.

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

Race/Ethnicity	Total Population		Group Quarters Population		Non-Group Quarters Population	
	Number	Percent	Number	Percent	Number	Percent
White	69	13.0%	20	90.1%	49	9.6%
Black or African American	0	0.0%	0	0.0%	0	0.0%
American Indian, Eskimo, Aleut	457	86.0%	1	4.5%	456	89.4%
Asian or Pacific Islander	3	0.6%	1	4.5%	2	0.4%
Other race	3	0.6%	0	0.0%	3	0.6%
Total Population	532	100.0%	22	100.0%	510	100.0%
Hispanic origin, any race	0	0.0%	0	0.0%	0	0.0%
Total Minority Population	463	87.0%	2	9.1%	461	90.4%
Total Non-Minority Population (White Non-Hispanic)	69	13.0%	20	90.1%	49	9.6%

Source: U.S. Census Bureau 2007b.

Data from 2000, however, do not show this same discrepancy. This is probably due to the timing of the census count during a period of processing inactivity when line workers were underrepresented, as it only showed a total of 22 individuals in group housing, 90.1 percent of whom were white. The non-group quarters housing, however, was relatively similar to the data seen for 1990; the large majority of total population was composed of American Indian, Eskimo, and/or Aleut individuals (at 89.4 percent), whites made up around a tenth of the total non-group quarters population, and a small number of other minorities rounded out the total.

Contemporary (2010) group quarters housing is provided by the local processor, Trident, in a building attached to the plant adjacent to the harbor. Icicle also constructed group quarters housing in the years since the crab rationalization 3-year program review. These quarters were meant to house their processing workers, but the housing has reportedly never been used because Icicle has not processed crab in the St. Paul harbor since the facilities were completed. Non-group quarters housing (unaffiliated with the processor) is located to the south and east of the harbor. Housing styles range widely, from some of the oldest remaining homes on the island (located directly uphill from the harbor and surrounding the church), to homes built in the 1960s in an area known as “Uptown.” A set of new homes are located north of Uptown. Older St. Paul residents largely live in the older homes near the center of town, convenient to the church, store, and harbor. Younger families generally live in Uptown and in the newer housing north of the clinic and east of Village Cove. Demand for housing, particularly in downtown, is high, with many new families living temporarily with relatives or in housing too small to fit their needs. Historically, there has been some vacant housing in the community, but these structures were generally in disrepair and not suitable for occupancy without substantial improvements. A handful of new homes constructed by the school district since the crab rationalization 3-year program review (2008) have served to ease housing demand slightly, but it is reported that many new families are still living temporarily with relatives.

Table 2.2-8 displays basic information on community housing, households, families, and median household and family income for St. Paul in 2000, including a statistic on vacant housing. The median household and median family income is lower for St. Paul than for the other communities profiled in this volume. However, St. Paul residents interviewed suggest that the quality of living has improved over the years and that people can currently make ends meet

easily on St. Paul, although the downturn in the nationwide economy that began in 2008 has hurt some families as larger, economic forces have affected fish prices and the cost of fuel, transportation, and food. Fishermen are reported to be the most successful people on the island, even if work is seasonal, with many people interviewed citing the successful management of the local CDQ by the CBSFA as a key reason.

Table 2.2-8. Selected Household Information, St. Paul, 2000

Community	Total Housing Units	Vacant Housing Units	Total Households	Average Persons per Household	Median Household Income	Family Households	Average Family Size	Median Family Income
St. Paul	214	37	177	2.88	\$50,750	123	3.44	\$51,750

Source: U.S. Census Bureau 2007b.

2.2.3 Local Economy and Links to Commercial Fisheries

The federally controlled fur seal industry dominated the economy of St. Paul until the mid-1980s. Large seal and bird populations still contribute to the local economy, as the rookeries and more than 210 species of nesting sea birds continue to attract tourists to the island. Tourism information from TDX shows that, from 2002 through 2007, annual visitors to St. Paul have numbered between 180 and 291. Tourism on the island has dropped recently, however, and it is assumed by residents that more recent annual numbers have been less than in years past. The number of visitors was reportedly higher (in the 400s) in the early 2000s, but tourism in St. Paul has apparently never fully recovered from two events: the discontinuation of the use of larger aircraft for scheduled passenger service to the island that occurred when long-time regional carrier Reeve Aleutian Airways went out of business (2000) and the sharp dip in tourism that followed the September 11 terrorist attacks (2001). Both of these events also corresponded with the local “crab crash” described elsewhere. More recently (2010), however, lower annual visitor rates have been attributed to the larger downturn in the nationwide economy.

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

St. Paul is engaged in and dependent upon a number of commercial fisheries in a variety of different ways, as described in detail in the subsections below. These include engagement with the harvesting and processing sectors directly, as well as through the local CDQ entity.

The Trident processing plant is the primary employer on the island. Other principal employers in St. Paul include the local, federal, and tribal governments; TDX and its subsidiaries; CBSFA; school; clinic; and AC Value Center. One small, private business—a small coffee stand located inside the AC Value Center—is currently present on St. Paul (2010), although more small restaurants or convenience stores have existed in the recent past. Interviewees previously cited high rental rates and inexperienced management as two factors contributing to a lack of small

private businesses in St. Paul. Employment figures for St. Paul from 1990 and 2000 are presented in Table 2.2-9.

Table 2.2-9. Estimated Employment and Poverty Information, St. Paul, 1990 and 2000

Year	Total Persons Employed	Total Persons Unemployed	Percent Unemployment	Percent Adults Not Working	Not Seeking Employment	Percent Poverty
1990	388	40	7.0%	32.6%	148	7.1%
2000	258	40	9.1%	41.5%	143	11.9%

Source: U.S. Census Bureau 2007a, 2007b.

The following detailed discussion of the fishing industry is divided into the harvesting, processing, and support services sectors.

2.2.3.1 Harvesting

Community Fleet Quantitative Description

An earlier North Pacific Research Board (NPRB)/North Pacific Fishery Management Council (NPFMC)-funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Sand Point, Adak, St. Paul, and St. George, Alaska* (EDAW 2008), included a quantitative characterization of the St. Paul 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 5-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.

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 Alaska 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). (A more complete discussion of this methodology may be found in Chapter 1.0.) Table 2.2-10 provides estimates of crew members for St. Paul for the years 2000 through 2009. 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 St. Paul, 2000–2009

Year	Permit Holders	Crew Members	Total
2000	30	3	33
2001	CFEC did not report data for 2001		
2002	29	43	72
2003	25	32	57
2004	20	31	51
2005	20	31	51
2006	22	31	53
2007	21	38	59
2008	23	44	67
2009	24	41	65

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

In addition to the CFEC data, information specific to local fleet halibut activity has been made available by the CBSFA, which covers CBSFA Halibut Cooperative employment, landings, and income data, as well as information on local halibut fishery direct support service employment. In some cases, these data do not correspond well to CFEC data. For example, according to CBSFA comments provided during the 3-year review of the crab rationalization program,

We have always had to deal with different halibut weights data used by the government and weights we use to actually pay the fishermen. E.g., when halibut are delivered at the dock and weighed in a brailer during offloading, a landing report is submitted to NMFS via a system that automatically deducts for heads, ice and slime. Then the processor cuts the head off, cleans the fish and weighs each fish individually and enters this new weight onto a fish ticket ...which is usually less than the landing report for various reasons, one is the angle they cut the heads off for different products. The after-processing weight is used on the CBSFA data report because it is the weight we use to pay the fishermen. (CBSFA comment provided via e-mail, 4/16/08)

In recent years, economic activity associated with harbor development in the support of commercial fishing has been quite important, and especially so in conjunction with the local development of those fisheries. St. Paul, as a CDQ community, has a viable opportunity to partner with the fishing industry in these ventures. Summary information on local CDQ group-related employment is only available for the years 1993 through 2005 and ranged from 3 in 1993 to 93 in 2005, with average earnings per person in 2005 at \$28,875 (cdqdb.org 2007; CBSFA 2006). More recent full employment/earnings information is no longer collected for the state, but figures from 2009 show that \$2.28 million were paid out to approximately 90 fishermen over the course of 2009, even before retroactively adjusted. Table 2.2-11 displays information on St. Paul local halibut fleet count of vessels, persons employed, landings, income, and ex-vessel prices for the years 1998 through 2009 as supplied by the CBSFA.

Table 2.2-11. St. Paul Local Halibut Fishery: CBSFA Count of Vessels, Persons Employed, Landings, Income, and Ex-Vessel Prices, 1998–2009

Year	Number of Vessels	Number of Persons Employed	Local Vessel Landings (lbs)	Income	Ex-Vessel Price per Pound
1998	22	111	714,764	\$553,942	0.78
1999	27	122	912,639	\$1,095,000	1.18
2000	25	116	913,275	\$1,656,090	1.81
2001	24	131	910,931	\$1,357,389	1.50
2002	21	106	609,563	\$837,328	1.48
2003*	19	105	412,160	\$1,073,842	2.60
2004	13	58	325,707	\$902,211	2.77
2005	14	66	441,398	\$1,946,565	4.41
2006	15	75	512,268	\$2,515,236	4.91
2007	15	85	562,264	\$3,261,131	5.80
2008	16	95	847,724	\$2,967,034	3.50
2009	17	100	783,714	\$2,280,608	2.91

*The CBSFA Halibut Cooperative began operations and purchased local halibut in 2003, and has been the primary buyer of local halibut since then. Prior to 2003, other buyers purchased all local halibut.

Source: CBSFA spreadsheet supplied via e-mail, 4/16/08; CBSFA presentation supplied via email, 10/28/10; CBSFA spreadsheet supplied via email, 11/1/10.

It is also important to note that there are also differences between CFEC crew numbers, shown in Table 2.2-10, and the halibut fishery employment numbers supplied by CBSFA. This is due, in part, to the way that the CBSFA counts fishery employment. For example, CBSFA data counts on-shore baiters as having jobs in the local halibut fishery, but since baiters do not need crew member licenses, the CFEC crew data do not encompass these jobs. Further, according to CBSFA review comments on a previous version of this document, “it may be that not all our crew members buy crew licenses, as they should, which cost \$60, so they are overlooked by CFEC” (CBSFA via e-mail 4/18/08). Table 2.2-12 displays information on additional local St. Paul employment and wage income that the CBSFA directly attributes to the local halibut fishery, broken out into subcategories, for the most recent year available (2009). These data have no counterpart in the CFEC data. Despite whatever differences exist in data sources, however, it is clear that the CBSFA Halibut Cooperative is an important source of employment and income for St. Paul residents.

Table 2.2-12. St. Paul Local Halibut Fishery and Related Direct Support Services: CBSFA Count of Employment by Type and Associated Wages, 2009

Type of Employment	Number of Positions/People Employed	Wages
Local Halibut Fishery	100	\$2,280,608
Dock Launch & Retrieval	12	\$12,539
Crane Operator	4	\$7,810
Dock Security	4	\$12,949

Source: CBSFA spreadsheet supplied via e-mail, 4/16/08; 11/1/10.

Community Harvester Characterization

The local fishing fleet focuses almost solely on halibut in the local area, which includes halibut areas 4C and 4D. Since the 3-year crab rationalization review (2008), a larger vessel wholly owned by CBSFA, the *St. Paul*, has participated in the local cod fishery on a small scale, but is primarily considered a halibut vessel.⁵⁸ While there is some interest in expanding cod fishing and crabbing, logistical problems surrounding government observers and the cost of crab vessels, permits, and/or gear have historically functioned to make these fisheries impractical to date for individual local vessel owners or residents. The *St. Paul* is crewed by local St. Paul residents, but the nature of the cod fishery reportedly makes it less attractive than the halibut fishery to local residents with fishing experience, as the halibut day fishery provides a very different experience than the cod fishery where multiple days at sea are the norm. The origin of the local halibut fleet can be traced back to TDX, which fostered the growth of this fleet, beginning in 1981, by providing loans for boats and, in the early years, operating a facility to buy and process the halibut.

According to the CFEC, there were 24 permit holders in St. Paul in 2009, although CBSFA representatives estimate that as many as 40 to 45 individual cardholders can participate in the CDQ program at any one time. In 2010, 17 local vessels were actively engaged in the halibut fishery, although that number was reportedly as high as 24 in the recent past. Most local boats are in the 22- to 46-foot range, with 34 feet being considered “large” for a local boat. The largest boat in the fleet is a 58-foot vessel, the *St. Paul*, owned by CBSFA. Historically, the fleet also included quite small skiffs fished only in very good weather. Today (2010), however, the commercial vessel fleet is composed of this 22- to 46-foot fleet. In terms of gear differentiation by vessel size, a 34-foot boat can handle a self-baiting system for halibut fishing, while smaller boats cannot. Generally, however, halibut baiting is still done by hand and it is common for younger children, family members, and individuals interested in the fishery but unable to go to sea (due to age, physical ability, or propensity for seasickness) to spend the early evening baiting hooks for the next day.

The local halibut fishery is considered a day fishery, meaning that fishermen fish daily and come back to shore every night, starting around 6:00 to 7:00 a.m. and arriving back to port sometime before 10:00 p.m., depending on weather and the success of the daily catch. Windy days, particularly if the wind is over 20 knots, are considered bad weather and many vessels will remain in port. The summer halibut season is a central organizing activity for the entire community (P. Swetzof, personal communication, 2002), and CDQ halibut is especially important in this regard (Kudrin, personal communication, 2002).

Only local residents are allowed to fish for CDQ halibut, and the CBSFA sets the terms under which they fish. Historically, fishermen were limited to landing 5,000 pounds a day and received payment from the processor minus an approximate 6 percent charge paid to the CBSFA to offset the costs of administering the program. Since 2003, however, the CBSFA has managed a halibut co-op program that is structured differently than the local halibut fishery of the past. The CBSFA now has no daily limit, but does (in 2010) have a vessel limit near 86,000 pounds, although this vessel limit fluctuates depending on the available biomass as determined by fishery managers. At the time of the crab rationalization 3-year program review (2008), 80 percent of the available halibut CDQ was given to the local fleet and 20 percent was leased to outside longline vessels

⁵⁸ Interview data suggest that the *St. Paul* has also experimented in the king crab fishery, but this has reportedly been at a small scale and its activity is not present in the current dataset.

because the local fleet was unable to fish 100 percent of the CDQ themselves before dangerous weather set in. However, with the more recent purchase of the *St. Paul*, the local fleet is capable of catching 100 percent of the available halibut CDQ and all of the IFQ owned by local residents. The CBSFA purchases the halibut directly from the fishermen at the dock, pays the fishermen an average market price, and custom processes the product through the Trident plant. The halibut purchased and processed by Trident is marketed and sold to the American, Canadian, and Asian markets. Currently (2010), halibut from the area is being sold in Costco stores in the form of frozen breaded fillets. Halibut purchased and custom processed by Trident for CBSFA is sold and marketed separately, usually in Alaska and in the Seattle area to the restaurant market. Recently, CBSFA purchased a vacuum-sealer that they installed at the Trident plant that creates vacuum packages of fresh halibut (as opposed to frozen pieces). Profits from the halibut pay for all fisherman expenses, custom processing fees, vessel launch and retrieval, and dock security and maintenance. After these costs are removed, 100 percent of the remaining profits are distributed to the vessel captains in the form of retroactive payments, or “retros.” These retros usually arrive as ex-vessel prices are adjusted, with payments arriving after the close of the season, providing a secondary boost to the local economy during the winter.

The halibut season usually starts June 22 and lasts until the quota is reached or the seas become too dangerous for the small vessels, which is usually around late September. In 2009, which is the most recent full year for which data are available, 666,824 pounds of halibut were harvested, representing 100.0 percent of the CDQ allocation. The highest producers in the fleet are limited by the vessel cap, but the majority of the vessels do not reach the cap. Generally, the average catch per vessel is estimated at 30,000 pounds. Recently passed amendments to the halibut and sablefish IFQ program gave local fishermen with IFQ, estimated to be around 15 individuals, the opportunity to fish their quota off of larger vessels, such as the *St. Paul*, in Area 4D. This area has generally been more productive than 4C in recent years (although the trend may be reversing in 2010), and there is a common perception that Area 4C has been overfished and that environmental changes are forcing halibut to move. Fishing IFQ in Area 4D is not without its challenges, however, as orca activity has been higher in the past few years, affecting the speed with which long-line vessels (like the *St. Paul*) can reach the quota limit as Bering Sea orcas have been seen eating halibut off of long lines.

In the recent past, local fishermen were also interested in developing a local cod fishery and have sold a limited amount of cod caught as by-catch in the halibut fishery to various processors. Cod is not yet a target fishery for the local fleet, although its development has historically been one of the long-term goals stated in the CBSFA’s quarterly CDQ reports to the State of Alaska. Outfall environmental concerns, as the island of St. Paul is a major northern fur seal rookery area, limit its full development. The Trident plant in St. Paul has processed cod, although this cod was purchased primarily (or exclusively) from nonlocal boats. As stated above, however, the cod fishery is now perceived as being logistically challenging for the local fleet, necessitating larger vessels and the management of government observers. Pollock could also be potentially profitable in St. Paul according to local sources, but processing outfall and its possible effect on the sensitive seal and bird species around the island are reportedly precluding any direct local participation in this fishery. There are other fisheries of interest to the local fleet, such as the hair crab fishery, which has been profitable in the past. However, hair crab is a closed species due to low biomass, preventing entry.

In St. Paul, the CBSFA has utilized the economic returns of the CDQ program to, among other things, expand involvement in other fisheries through targeted investment as well as through

direct participation to a limited degree. The CDQ program, which was implemented in 1992 as part of the groundfish management changes of Inshore/Offshore-1, allocated a percentage of the pollock quota to CDQ communities to aid in economic development through involvement in Bering Sea commercial fisheries. St. Paul is the only community that is the sole member of its own CDQ group (the CBSFA). The CDQ program expanded in 1998 to a number of other species, including crab, in addition to pollock. Table 2.2-13 presents the overall CDQ allocations for the CBSFA for the last year available (2010). In addition to the figures shown in the table, CBSFA is allocated 85 percent of the total Area 4C CDQ halibut allocation (with Aleutian Pribilof Islands Community Development Association, representing St. George, getting the remaining 15 percent). CBSFA's portion of the 2007 Community Development Plan Halibut Allocation of Area 4C CDQ halibut was 793,262 pounds (out of 933,250 pounds total).⁵⁹

Table 2.2-13. CBSFA CDQ Allocations by Percentage of Total Available CDQ, 2010

Species	CBSFA Percentage
CDQ Reserve Category	
BS Pollock	5%
AI Pollock	5%
Pacific Cod	9%
BS FG Sablefish	16%
AI FG Sablefish	3%
BS Sablefish	9%
AI Sablefish	8%
WAI Atka Mackerel	8%
CAI Atka Mackerel	8%
EAI/BS Atka Mackerel	8%
Yellowfin Sole	8%
Rock Sole	8%
BS Greenland Turbot	8%
Arrowtooth Flounder	9%
Flathead Sole	9%
WAI Pacific Ocean Perch	8%
CAI Pacific Ocean Perch	8%
EAI Pacific Ocean Perch	8%
PSQ Reserve Category	
Zone 1 Red King Crab	8%
Zone 1 Bairdi Tanner Crab	8%
Zone 2 Bairdi Tanner Crab	8%
Opilio Tanner Crab	8%
Pacific Halibut	9%
BS Chinook Salmon	5%
AI Chinook Salmon	5%
Non-Chinook Salmon	5%

Note: BS (Bering Sea); AI (Aleutian Islands); WAI (Western Aleutian Islands); CAI (Central Aleutian Islands); EAI (Eastern Aleutian Islands).
Source: NMFS 2010.

⁵⁹ Source: January 23, 2007, memorandum from Jessica Gharrett, Data Manager, Restricted Access Management Program, provided by CBSFA during document review comment process, April 16, 2008.

According to ownership data supplied by NPFMC and Trident staff, all crab deliveries to processors in the Pribilofs are made by nonlocal boats from communities elsewhere in Alaska and the Pacific Northwest. These data indicate there is little or no local crab fleet in St. Paul; however, there has been recent local investment in crab harvester vessels through the local CDQ group. The CBSFA, through a wholly owned subsidiary called the Multi-Species Development Holdings, LLC (MSDH) currently owns shares in four vessels that concentrate in three main fisheries: crab, pollock, and cod. Table 2.2-14 details these assets. MSDH once owned two other crab vessels but recently sold them and transferred their quota to other owned vessels. Through these holdings, CBSFA has been able to collect a substantial amount of catcher vessel owner quota.

Table 2.2-14. MSDH LLC Vessel Assets, 2010

Vessel*	Fishery	Percentage Held
<i>St. Paul</i>	Halibut, Cod	100%
<i>Fierce Allegiance</i>	Crab, Pollock, Cod	30%
<i>Early Dawn</i>	Crab	30%
<i>Starlite</i>	Crab, Pollock, Cod	75%
<i>Starward</i>	Crab, Pollock, Cod	75%

*MSDH also retains BSAI crab harvester quota originally associated with the previously owned, but subsequently sold, *Ballyhoo* and *Shishalidin*.

Source: CBSFA 2010.

While CBSFA did not obtain any catcher vessel owner quota during the initial allocation process for any of the rationalized crab species, by the 2010–2011 season, CBSFA owned nearly 8 percent of the total quota share units in the Bristol Bay red king crab fishery, its largest percentage holding. At present (2010), catcher vessel owner quota (non-CDQ quota) currently held by the CBSFA includes quota shares in all of the rationalized BSAI crab fisheries.

These investments mean there is a local harvester stake in wider harvest issues, not only those surrounding the halibut fishery. In fact, the success of MSDH, 57° North, and other CBSFA investments has created the financial environment for the above-mentioned halibut co-op to flourish. By investing in the crab, pollock, and cod fisheries, the CBSFA is able to meet their operating costs and generate a profit to the extent that profits from the halibut fishery can be given 100 percent back to the local fishermen. CBSFA profits have also funded the purchase of a crane for the launching and removal of vessels, and the construction of a combination new city fire station and CBSFA crane storage building, a preschool Montessori program, and the purchase of a local quick-response and research vessel (with the Tribal Government of St. Paul). Most recently, however, CBSFA completed the construction of a small boat harbor. In the works since 1999, the small boat harbor is anticipated to contribute significantly to the local fishing economy of St. Paul. Other services for the community funded by the CBSFA include scholarships for students, monetary contributions to local youth sports programs, grants for training, low-interest loans for vessel and IFQ purchases, fishery-related research projects, and an annual donation of halibut to community elders. Furthermore, it is not uncommon for at least a few local residents to serve as crew members on larger crab vessels in which the CBSFA (as MSDH) has an ownership stake, so that in most years one or two St. Paul residents earn crew shares in Bering Sea crab fisheries.

2.2.3.2 Processing

Community Processor Quantitative Description

An earlier NPRB/NPFMC-funded community profile effort, *Comprehensive Baseline Commercial Fishing Community Profiles: Sand Point, Adak, St. Paul, and St. George, Alaska* (EDAW 2008), included a quantitative characterization of local community commercial processing sectors, including detailed information on an annual basis, from 1995 through 2005, 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 5-year review-oriented community analysis, it has not been updated for this community profile. Further, in the case of St. Paul, 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 Processing Characterization

Overview

In terms of the history of local processing efforts, contemporary local shore processing can trace a continuity to a TDX pilot project to harvest and process local halibut that began in 1981. One source suggested that they were using the “Anderson plant,” which had been built in the 1970s (J. Plesha, personal communication, 2002). Small volumes of halibut were processed in 1981–1983 and increased significantly in 1984. TDX sold the operation to the Aleut Community of St. Paul (the local Indian Reorganization Act [IRA] village tribal entity) in 1984, which operated it until 1988. After 1988, the facilities were upgraded and leased to an outside operator, Pribilof Island Processors (PIP), which reportedly processed halibut, cod, and crab—although total amounts may have been relatively small. PIP went out of business in 1991 and its assets, including the St. Paul operations, were acquired by Unipac. Unipac continued to operate the existing facilities but also built a large crab plant. Unipac processed a significant amount of crab in 1992–1994. In 1994, Trident purchased the Unipac assets and has operated the processing plant since then. Also in the 1990s, TDX and the Aleut Community of St. Paul began to jointly operate as another local buyer for halibut, doing business as PASCOS, which reportedly had the benefit of increasing the local price for halibut due to market competition. During their first year of operation they processed the halibut with their own crew, using facilities leased from Trident. By 2001, however, according to local sources, a different custom processing arrangement instituted by Trident had the effect of resulting in less profit for PASCOS, effectively rendering the PASCOS operation obsolete. In 2003, according to CBSFA leadership, CBSFA created the CBSFA Halibut Cooperative and began buying halibut with a focus on the local vessel market in general and local CDQ halibut in particular.

Currently (2010), the CBSFA buys halibut from the local fleet, as does Trident Seafoods, the owner and operator of the local shore plant. While the CBSFA buys exclusively from local vessels, Trident buys mostly from outside vessels but does purchase at least some IFQ halibut from local vessels as well. All halibut bought locally is processed at the Trident plant, either as

custom processing for CBSFA or direct processing by Trident itself.⁶⁰ The Trident plant, in addition to this halibut activity during the summer months, also processes king crab and opilio crab in the autumn and winter, respectively.

In addition to shore processing, St. Paul has also been the site of mobile processing operations. Floating processors and catcher processors locally processed this crab through the 1980s and still continue to process locally. Icicle intermittently anchors a floating processor in the St. Paul harbor during the opilio crab season. Since the crab rationalization 3-year program review, Icicle has stationed a floating processor in St. Paul harbor in 2008, and anchored a floating processor outside St. Paul harbor (but within sight of the island) in 2009 due to icy conditions. No Icicle processor was present in 2010.

Despite having only one shore processor in the community at present, some other fishery support infrastructure is in place, including recently completed cold storage and group quarters housing, due in part to previous floating as well as shore processing activities. Since 1992, however, shoreplant operations on St. Paul have grown in local importance, but the relative production of shoreplant and floating processors in and near St. Paul in recent years cannot be discussed quantitatively because of data confidentiality restrictions.

Current Operations

The Trident plant, in terms of value, has relied primarily on crab, including opilio and king crab. Trident reports that cod is also processed during opilio season, resulting in salt cod and H&G cod for the European and American markets. The amount of cod per season, however, varies from one year to another and recently (2010) has not been as much as previous years. In a “normal recent” (post-BSAI crab rationalization) year, the yearly cycle is expected to be opilio crab opening about January 15 with about 280 personnel on hand, including processors, maintenance, clerical staff, and management. Except for 20 to 25 local residents who either work on the docks or on the processing line, nearly all personnel are considered nonlocal despite a desire on the part of Trident management to hire a large number of local residents. All boats delivering crab are considered “nonlocal,” but the MSDH vessels do make deliveries to Trident. The opilio activity, as well as most cod activity, would be expected to last until mid-March, when two-thirds of the processors would be “sent home” (laid off). The targeted cod fishery is also fished by nonlocal boats, although some by-catch cod may be delivered by local boats during the halibut fishery. Halibut processing takes place from mid-June through September and employs a processing crew of about 40, of whom few, if any, are local. CDQ halibut is very important during this period and is fished exclusively by local boats. Local boat owners also own some regular halibut IFQs, which are delivered into St. Paul, and a few nonlocal fishermen have delivered regular IFQ halibut to St. Paul in the recent past. The yearly cycle ends with king crab processing, which lasts a month between October 15 and November 30. Fifty to 55 processors work at the Trident plant during this season.

⁶⁰ According to CBSFA representatives, as of 2010, CBSFA is investigating ways to invest more directly in the Trident operations in an effort to secure their presence on the *St. Paul*. However, due to a web of regulations and concerns over conflicts of interest, CBSFA has not been able to invest directly in Trident, but has been able to assist with the cost of the lease (as Trident operations occur on land and in facilities owned by TDX) and arrange for the sharing of overhead costs based on the percentage of halibut processed by CBSFA, as well as install additional processing machinery within the Trident plant used specifically for CBSFA custom processing.

In addition to its own north region rationalized crab individual processor quota (IPQ), Trident's St. Paul facility also custom processes north region IPQ for other processing firms.

Local processing employment varies by season, with opilio season being the most demanding, regularly employing 280 processors at the shore plant for a span of 3 months. Processing employees are housed in a bunkhouse on-site and in another smaller bunkhouse near the AC Value Center. The smaller bunkhouse is used only during opilio season, however, and is rarely filled for more than a few months out of the year. Each room in both bunkhouses accommodates six to eight people, although only two to three people are in a room during halibut season. Processing employees generally have minimal interaction with full-time St. Paul residents.

In the recent past, a number of floating processors have also operated in the area and have established ongoing relationships with various regional communities. Icicle and Norquest operate the two major floaters that have processed crab most consistently in the Pribilofs. Another operator, UniSea, processed crab in the Pribilofs during the mid- and late-1990s but has sold their most recently locally used platform (the barge *UniSea*⁶¹) and has not processed crab in the Pribilofs since 1999. Icicle typically processes inside the St. Paul harbor aboard the *Arctic Star*, while Norquest normally processes outside of the harbor itself, as well as in other locations in the Pribilofs. Other enterprises may also have used floaters to process crab in and around St. Paul and St. George as well.

Icicle Seafoods, though absent from the community in 2007, processed crab aboard a floating processor in the St. Paul harbor in 2008 aboard the *Arctic Star*, and outside the harbor aboard the *RM Thorstenson* in 2009 due to icy conditions. It was reported that Icicle Seafoods had neither the *Arctic Star* nor the *RM Thorstenson* in the St. Paul area in 2010. Icicle reportedly custom processes for other companies as well as processing their own processor quota; Trident also currently (2010) both processes its own processor allocation and custom processes crab for other companies. The prevalence of local post-rationalization custom processing can be seen in Table A1-7, which shows the presence a maximum of two processors in the community, for both king crab and opilio, in the years leading up to rationalization. After 2005, however, the number of Bering Sea snow crab processors listed in the dataset for St. Paul increases considerably (peaking at eight processors listed for 2008) due to custom processing occurring at local facilities. In the case of Bristol Bay red king crab, during 4 of the 7 years immediately preceding rationalization, no local processing took place, but local processing of Bristol Bay red king crab has occurred every year post-rationalization (including 2 of the 5 post-rationalization years where two processing entities are listed for St. Paul). For both the Bristol Bay red king crab and Bering Sea snow crab fisheries, the annual average number of processors has more than doubled in the post-rationalization years compared to the pre-rationalization years covered by the 1998–2010 dataset. Post-rationalization local processing of Bering Tanner East and Bering Tanner West has also involved multiple processors each of the last 3 years (2008 through 2010).

One major organization for which Trident custom processes crab is the CBSFA (under the name 57° North, a wholly owned subsidiary), which owns a 9.9 percent share in Royal Aleutian Seafoods (purchased by UniSea, following the implementation of BSAI crab rationalization in

⁶¹ The processing barge *UniSea*, a converted World War II Liberty Ship and long a fixture in Dutch Harbor and later St. Paul, was sold for scrap in the Far East, leaving the fishery entirely.

2005). In addition to these processor quota shares, in 2008, 57° North obtained the crab catcher processor owner quota formerly held by Highland Light Seafoods and Yardarm Knot. While CBSFA/57° North did not receive any initial allocation of catcher processor owner quota, by the 2010/2011 season, 57° North owned approximately 10.6 percent of the total Bristol Bay red king crab catcher processor owner share units, and 9.7 percent of the total opilio catcher processor owner share units, as well as 10.5 percent of the total catcher processor owner share units in the Bering Tanner East and Bering Tanner West fisheries. The CBSFA also directly owns other harvest and processing capacity for a number of species through ownership of a 9 percent share of American Seafoods.

In respect to crab processing, qualitative interview information suggests that the shift of processing away from St. Paul during dropping stock conditions in 1999–2000 may have been related to the “slow” nature of the fishing, and a crab fishery that was less of an intense race for crab than in the past. Data from interviews with harvesters would suggest that shorter seasons (and/or lower harvest levels), among other factors, resulted in a higher proportion of crab being taken farther from the grounds (away from St. Paul) for processing because “last loads” that often go elsewhere account for a higher proportion of the total harvest than would otherwise be the case. The 1999–2000 downturn 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 and CBSFA investments. 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 National Marine Fisheries Service of the continuation in 2005 and 2006 of a “commercial fishery failure” for the Bering Sea opilio crab fishery⁶² and a few enterprises, such as crab gear storage, have seen some decline in revenues more directly linked to crab rationalization.

Most processors that operate in the Pribilofs also process crab in other locations (with shoreplants and/or floating facilities). Those processors that operate only floaters in the Pribilofs could operate those same facilities anywhere that logic and economic incentives dictate, while the single north region shoreplant (in St. Paul) is fixed in location. One major concern of St. Paul entities is that if changes in the crab fishery through another “crab crash” or changes to the rationalization program were to result in the closure of the onshore plant and processing moving away from St. Paul, the underpinning of processing for the local halibut fishery would also be removed. In the current environment, the shoreplant that processes crab also processes 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. The possibility of this fear becoming reality was witnessed during the opilio season of 2007 when, reportedly due to leasing and other cost issues, Trident moved its processing activities from the St. Paul shoreplant to a floating processor in the St. Paul harbor. While this scenario apparently would not have been an attractive or even

⁶² A record of the official determination “that the situation continued in 2005 and 2006 to constitute a commercial fishery failure under section 312(a) of the Magnuson-Stevens Fishery Conservation and Management Act” was contained in a July 19, 2007, letter from the Director of the National Marine Fisheries Service to the Mayor of St. Paul, a copy of which was provided to the research team by CBSFA on April 16, 2008. The determination of fishery failure has been in place since 2000.

viable alternative before the crab stocks declined and rationalization extended the season, moving the crab processing operation to a floating processor for the winter of 2007 apparently was a fiscally and logistically successful choice for Trident in what were otherwise adverse business conditions. This action, however, suggested to community civic and business leaders that Trident was now capable of leaving the onshore facility permanently, endangering the existence of a local halibut fishery. Ultimately, Trident and TDX reached agreement lease terms following the 2007 opilio season, and shore operations became stable once again.

2.2.3.3 Support Services

The fishing-related support services sector of the St. Paul economy is relatively undeveloped as it relates to the local fleet, with many of the services present catering to the large crab vessels that were common during high opilio quota years. Generally, fleet support services are coordinated by the CBSFA, which manages the small boat dock and arranges for service professionals to visit the island to repair vessels and gear.

Harbor Services

Support services in St. Paul are in a state of continuing development. St. Paul harbor was officially opened August 3, 1990 (although it was used before the official opening). There is a breakwater, 700 feet of dock space, and a barge offloading area. The harbor provides facilities to offload and temporary moorage, but long-term moorage is lacking, although basic electricity, water, and fuel services are available. At the time of the crab rationalization 3-year program review (2008), a floating dock was put into place at the beginning of every halibut season for the use of the local fleet. This floating dock was managed, serviced, and maintained by the CBSFA, but it was relatively small and the local fleet regularly had to tie up to other boats at night, as opposed to tying directly to the dock. If a visiting small vessel arrived to town, as one did during fieldwork in 2007, precious dock space could be occupied by vessels not in the fishery. Recent (2001) Opilio Disaster Funds and \$6 million of CBSFA money were set aside for the development of a small boat harbor. In cooperation with the Army Corps of Engineers, which created the breakwater and installed the navigational aids, the CBSFA and City of St. Paul installed and opened the long-planned small boat harbor in the fall of 2010. The new harbor has 1,502 linear feet of moorage, with thirteen 36-foot slips and one 84-foot slip, providing adequate space for the entire local fleet and providing room for growth.

Besides the installation of the new small boat harbor, St. Paul is able to provide little in the way of direct support services, although up to nine offshore processors have been historically serviced out of St. Paul. Services to work on larger vessels are generally not available (except those that may possibly be obtained at the Trident plant or a floating processor). At the time of the crab rationalization 3-year program review (2008) the CBSFA had to bring in nonlocal specialists (engine repair, aluminum welding) even for work on the small local boat fleet when there was sufficient demand for such service. These professionals were housed and reimbursed for their travel by the CBSFA as a service to the local fleet, but captains were responsible for payment related to the actual individual vessel service provided. More recently, however, a local resident with shipbuilding and welding experience has (at least seasonally) relocated to St. Paul and has provided services to the small local boat fleet, reducing the need to fly in the help of outside specialists. Increased cold storage has also been completed in the recent past. The latest addition to the harbor area has been the CBSFA-funded purchase of a Manitowoc 4000W crane, which serves to haul vessels out of the harbor (in addition to other nonvessel-related jobs around the island).

Marine and Other Fuel Sales

There are two alternatives for purchasing fuel in St. Paul: St. Paul Fuel Sales/North Pacific Fuel and St. Paul Delta Fuel. St. Paul Fuel Sales/North Pacific Fuel is a joint venture between North Pacific Fuel, a subsidiary of the Arctic Slope Regional Corporation and the City of St. Paul. It is located at the main city-operated dock where visiting vessels not making a delivery to Trident are moored. This enterprise offers home heating fuel and gas for automobiles, as well, with home heating fuel delivered directly to homes. Since the time of the crab rationalization 3-year program review (2008), it has secured the heating contract for the school district. At present (2010), three people are typically employed at the fuel dock, with another employee located off-site for automobile fuel sales.

St. Paul Delta Fuel, a joint venture of Delta Western and TDX, is located within the Trident processor facility. Delta Fuel also offers marine and home heating fuel sales, as well as aviation fuel. Delta Fuel generally serves the local fleet and other vessels that deliver to Trident due to their location at the same dock. In the past, Delta Fuel was the preferred provider of home heating fuel because the buying power of TDX resulted in cheaper oil for residents. This is no longer the case, however, and North Pacific Fuel now has a lower home heating fuel process. One advantage Delta Fuel has is that their delivery system is gravity based and is able to work during power outages, as opposed to North Pacific Fuel, which does not have a gravity-based delivery system. Delta Fuel draws much of its revenue during crab and halibut season but also has a contract with the airport for fuel and manages individuals through accounts, driving repeat business. Delta Fuel currently (2010) employs two community members, which is the same as reported during the crab rationalization 3-year review.

Gear Hauling and Storage

Other local vessel support services specific to the crab fisheries that occur in the area are pot logistical support and storage services that are offered on the island, at \$20 per pot for hauling/loading and \$3 per pot for 6 months of storage.⁶³ TDX manages the pot storage and keeps crab pots in a space of vacant land situated near the city power plant. TDX staff report that the “crab crash” after the 1999 season hurt the crab pot storage business for TDX, with demand decreasing dramatically. The formerly lucrative venture has reportedly seen a steady decline in vessels storing their gear in St. Paul in the years since 2000. In 2007, it was suggested that the implementation of BSAI crab rationalization (2005) and the accompanying consolidation of the crab fleet reinforced this previously existing downward trend in pot hauling and storage revenues, and the same trend appears to exist at present (2010), as only a handful of crab boats store gear at St. Paul.

General and Hardware/Marine Supply Stores

The only formal store in town is the Alaska Commercial store, also known as the AC Value Center. In addition to providing groceries to the local community, the AC Value Center also sees an increase in business during crab season with processors purchasing small snacks. Generally,

⁶³ 2007 rates; 2010 rates may be different.

food is provided to processors by the plant through their cafeteria/galley/mess hall, but processors are allowed snacks in their rooms. Other residents on the island, particularly the elderly and people without freezers who cannot buy in bulk, also regularly shop at the AC Value Center. Given a relatively large price differential, however, most other residents choose to order in bulk from off-island “big box” stores such as Costco or Sam’s Club.

Shipping and Air Transportation

Locally landed fishery resources are ultimately shipped from St. Paul by sea. The king crab harvest and the halibut harvest are typically frozen and shipped by freighter out of St. Paul to distribution centers to the south. The opilio crab harvest is shipped by Northland barge, which stops at St. Paul throughout the winter season. Despite this trend, there are possibilities that air service may get expanded on St. Paul, providing an opportunity for product (most likely beginning with halibut) to be flown fresh off-island.

The airport is located outside of the center of town, approximately 3 miles to the northeast. Until recently, this airport featured a gravel runway approximately 5,125 feet long, but now the community is served by a newly completed 6,500-foot-long by 150-foot-wide asphalt-paved runway. PenAir, Ace Cargo, the U.S. Coast Guard (USCG), and private charters arranged by the federal government or contractors have been common throughout the year, although Northern Air Cargo began making twice-weekly stops to the island in the fall of 2010. PenAir provides the sole regularly scheduled passenger service, however, with daily flights between the months of May and October. During the rest of the year, service is reduced to four times a week. The only exception to this is during the beginning and end of opilio season, when up to five flights a day will transport processing workers to the island. Also during opilio season, a USCG helicopter will be stationed at the St. Paul airport to cut emergency response times to the fishing grounds. In 2007, there were four employees of PenAir who worked in St. Paul throughout the year. One resident worked for the airport itself as an employee of the Alaska Department of Transportation, although another was added during the winter for snow removal depending on the weather. It is likely that a similar arrangement currently (2010) exists, but information to confirm this was not readily available.

The state employees are certified in crash response, however, and will occasionally assist the city fire department on an as-needed basis. Regularly scheduled flights are restricted by the visual flight rule and will occasionally be canceled due to heavy fog or low clouds, particularly during the summer months. The Alaska region of the Federal Aviation Administration (FAA) warns pilots that reindeer may be on the runway (FAA 2007).

Alaska Native Claims Settlement Act Corporations

TDX owns much of the land on St. Paul, including much of the land near the airport. One of the most striking features visitors to the island first see upon arrival to St. Paul are three wind turbines located almost adjacent to the airport driveway. These turbines are owned by TDX and represent one facet of the corporation’s participation in the local economy. These wind turbines power the TDX-owned hotel and restaurant (when open) and there are plans by TDX to

incorporate the surplus energy generated by the wind turbines into the local grid.⁶⁴ Aside from the land leasing, pot storage, hotel, restaurant (temporarily closed), and fuel sales mentioned above, TDX also operates the local cable and internet service on St. Paul.

As for services, TDX provides tours highlighting the biological diversity of the island to tourists, visiting popular and photogenic rookeries and cliffs crowded with nesting birds. TDX also manages a small museum in the center of town featuring artifacts dating to the Russian occupation of the island, Russian Orthodox materials, Alaska Native crafts, and biological specimens. This tourism operation is not as popular as in the past, however. As stated above, the level of tourism is considered to be lower than in a number of previous years due to the suspension of Reeve Aleutian Airways service to the island, a drop in tourism related to heightened security concerns post September 11, and the ongoing national recession. According to local community members, the larger type of aircraft utilized by Reeve offered a more comfortable, more reliable travel experience for tourists, many of whom were elderly. Others believe that the current lodging facilities are not as competitive in their amenities as those once offered on the island compared to a number of alternative destinations and visiting tourists, which includes the communicative bird-watching community, have shared this perspective with their peers. Still, for many bird watchers, a visit to St. Paul (and neighboring St. George) provides the only opportunity to view a number of rare species, and a handful of birders are always on the island at any one time during the spring and summer months.

In 2007, TDX ran a local recreation center for island youth, which was open from 7:00 p.m. to 12:00 a.m. during the summer with more limited hours during the school year. The recreation center was stocked with a pool table, the latest video game systems, and snacks at prices below those of the AC Value Center. The center was meant to be a safe place to “just hang out,” as described by the one TDX employee who supervised the center. An update as to the current (2010) status of the center was unable to be obtained.

Finally, TDX owns a multifaceted company called Bering Sea Ecotech (BSE), whose slogan is “Performance Without Compromise.” This company conducts whatever construction and environmental remediation projects are necessary on St. Paul and employs a handful of people locally, although this number generally increases for large projects. This company is not based in St. Paul, however, and the vast majority of their work is done outside of the community. This includes general contracting, road construction, electrical installation, fiber-optic and cable installation, and unexploded ordnance remediation. BSE operates throughout the lower 48 states and also has a strong presence in Hawaii providing oil spill response and power station maintenance.

⁶⁴ At the time of writing (2010), the conventionally fueled generator/power plant owned and operated by the City of St. Paul had just been upgraded and the cost of retrofitting the updated plant with the components to accommodate additional wind-generated power, on top of the costs of the recent upgrade, was considered by the city management to be a potential impediment to having necessary improvements to occur in the immediate future. More recently, however, there apparently has been some movement toward executing a power purchase agreement between TDX and the city since a grant was secured by TDX to provide for integration funds contingent on a power purchase agreement being in place.

Tribal Organizations

The Aleut Community of St. Paul functions as both a service provider, primarily through the funding of those services, and a business owner in the community, as discussed in a subsequent section. The range of services provided in the community includes the funding of scholarships, organizing a domestic violence education and prevention program, providing medical loans, distributing food to elders, funding a learning center equipped with computers and internet connections, and funding tribal youth programs that include drug and alcohol awareness education. In addition to these social programs, the Aleut Community of St. Paul had begun winterizing and performing standard maintenance on a number of homes on the island, creating a more livable situation for in-need tribal member families. This endeavor had improved at least 25 homes on the island by the time of the crab rationalization 3-year program review (2008).

The Aleut Community of St. Paul also provides local management for the sensitive biological resources on the island, including fur seals, rare bird species, and the small reindeer herd present on the island through the St. Paul Eco-Office. In 2007, the St. Paul Eco-Office was staffed by three employees (two full-time and one part-time) who provided seal rookery visitation permits for visitors and other individuals who were not tribal members. They also managed a recycling program (which had recently been suspended due to lack of funding), conducted rat prevention on the island, monitored for possible oil spills and clean oiled wildlife, managed the subsistence seal harvest, tested water quality around the island, and conducted education programs for children. The Eco-Office also manages a fur seal disentanglement project, which removes fishing gear otherwise attached to fur seals. The Eco-Office is regularly funded by the NPRB for these projects. In 2007, the Aleut Community of St. Paul employed around 40 residents, although this number dropped to around 20 during halibut season as half of the staff is engaged in the local fishery. The Aleut Community of St. Paul reserved these positions through the halibut season and fishermen were reinstated after the season ends. It is assumed that the current activities and trends seen in 2007 are still present in 2010, but more recent information to confirm this was not readily available.

Lodging, Food, and Beverage Services

TDX also operates the only hotel on the island. Located in a building adjacent to the airport terminal, the King Eider Hotel provides rooms to the public, with primary customers being fishing companies, for crew changes, and bird watchers who frequently come to the island. At the time of the crab rationalization 3-year program review (2008), June and July were considered busy months by TDX staff, with 10 to 15 people staying in the hotel at one time. Other months throughout the year are generally not as busy, with two to three people staying in the hotel, but there is rarely a time when no one is staying at the hotel. More recently, tourism has reportedly dropped slightly due, it is assumed by residents, to the ongoing national recession. While the total tourism numbers have declined, tourism remains a seasonal activity. Contractors associated with construction activities or government projects will also sometimes stay in the hotel, although people staying for longer periods of time usually arrange for private housing.

Directly adjacent to the hotel is the only restaurant in St. Paul, the King Eider Hotel Kitchen, which is also owned by TDX. At the time of the crab rationalization 3-year program review (2008), the restaurant was open for breakfast, lunch, and dinner, but hours were limited and the menu was set weekly. Generally, the chef would only make enough food for people staying in

the hotel, as it was assumed that only those staying in the hotel would need food service because other visitors staying in private housing usually have access to a kitchen. Thus, people interested in eating at the restaurant but not staying at the hotel were encouraged to make a reservation. According to TDX staff, the restaurant struggled to make money and keeping fresh inventory in the summer was a challenge due to irregular air service. The restaurant was run by one person at that time, but it reportedly has closed in more recent years and is now (2010) only in use when large teams of people are on-island. In those instances, a chef brought in with the work team is allowed to use the kitchen.

The local bar is owned and operated by the Aleut Community of St. Paul, which is the Native tribal government of St. Paul. The bar is located east of Village Cove, near newer housing and uphill from the post office, and in the same building as the tribal offices. The bar is open nightly and caters to residents and visitors. The most active times of the year for the bar are the months of May and June. Another busy season usually occurs during opilio crab processing in January through March. Lent has historically been a slow time for the bar since drinking alcohol is forbidden by the Russian Orthodox church during Lent. The bar has a pool table and a television, and a local band plays on a semiregular basis on Friday nights. The bar is the only space in the main part of the community large enough to host large gatherings, as the restaurant is located outside of town near the airport. Thus, community gatherings such as potlucks or large parties are held at also held at the bar.

The Aleut Community of St. Paul also owns the local liquor store, which is accessed through a doorway below the AC Value Center in the center of town. The liquor store specializes in beer and wine sales. For reasons similar to the bar, May and June are busy months, as are the months January through March. Lent sales are slow due to religious reasons. Historically, the liquor store would close during Lent, but it now stays open despite relatively slow sales.

Other Local Business/Service Activity

Clinic

The clinic in St. Paul, officially called the Saint Paul Health Center, was built in 2006 and is operated by Aleutian Pribilof Islands Association and the Aleut Community of St. Paul. The clinic offers a suite of services for the residents and visitors of St. Paul, including processors and vessel crews, such as emergency care, primary care, tele-radiology and tele-pharmacy services, blood testing, family planning and gynecology, behavioral health services, and organizing the local food bank. The clinic also offers a range of education programs on subjects including smoking cessation, substance abuse, and diabetes. The clinic features a full moderate complexity lab, which is capable of running blood tests and toxicology screenings. The clinic is considered a mid-size facility and employs 22 people, including 3 physician assistants, 3 community health aides, 2 behavioral health clinicians, 1 community wellness advocate, 1 dental health aide therapist, and 1 part-time dentist, which is an increase in staff over the numbers seen in 2007. Other medical professionals visit on a regular basis throughout the year, including a doctor twice a year. Another dentist also visits the island twice a year and is able to use the fully stocked dental suite available at the clinic, saving on travel costs and providing a logistical incentive for dentists to visit. An optometrist also visits three times a year to conduct vision testing. Visiting professionals typically stay in suites on-site. Statistics for 2005 and 2006 show that there were 3,641 and 3,049 total visits to the clinic (among 678 and 615 unique users, respectively), while

more recent statistics for 2009 show 2,983 cases spread among 580 unique users. As can be discerned by these numbers, the clinic provides service to local community members as well as processors, with the busiest season for processor and vessel crew visits occurring during crab season. Typically, vessel crew injuries include broken bones from crab pot mishaps and processors visit the clinic due to flu-like illnesses. Residents come to the clinic for a variety of reasons, including emergencies, illnesses, and general health inquiries. Clinic staff members report, however, that diabetes-related health issues are the most common among residents. The clinic is considered a mid-size facility and the level of service provided may seem overwhelming for a community of just over 450. The clinic is the only one of its kind in the Bering Sea, however, and is used by the USCG as a triage station. The importance of a well-staffed, advanced clinic in St. Paul was demonstrated by the 2002 explosion of the *Galaxy* in the waters off St. Paul, resulting in two deaths and forcing 26 men to abandon ship. During this emergency, USCG rescue aircraft used St. Paul as a base and the clinic as a triage center. At the time, the clinic was not as advanced as the one currently on the island, and the event underscored the importance of a prepared clinic and was a precipitating force in the development of the new, more capable clinic.

Miscellaneous

Local fishermen, residents, and visitors on both St. Paul Island and St. George Island receive local community information, weather forecasts, and musical entertainment courtesy of the only official radio station in the Pribilofs: KUHB 91.9. Located in the city office building and funded by the school district, KUHB generally offers an eclectic mix of country standards, R&B hits, soft rock, and pop. A selection of National Public Radio programming is carried, including All Things Considered, as is more local fare, including a local sports talk show out of Homer. Three people are employed full-time at KUHB: a station manager, a disk jockey, and a news reporter. Through the effort of the news reporter, KUHB produces local features detailing daily life and events on St. Paul.

2.2.4 Local Governance and Revenues

St. Paul is a second-class city incorporated in 1971. The local government includes a mayor, a seven-person city council, regional school board, planning commission, and various municipal employees (Sepez et al. 2005). In 2010, the total number of municipal employees tallied 40, with 37 full-time employees and 3 part-time employees, which is down from the total number of employees at the time of the crab rationalization 3-year program review (47 total employees). It is not uncommon for seasonal help to be hired in the summer. The city imposes a 3 percent sales tax but has no property tax. The city manages the activities at the airport (although the airport itself is run by the Alaska Department of Transportation), runs the power plant, administers the harbor, collects garbage, provides water and sewer service, maintains the road system, and coordinates the volunteer fire department. The city also provides marine, automobile, and home heating fuel sales, in addition to providing some light home and automobile maintenance services.

Table 2.2-15 provides information on municipal revenues for St. Paul for the years 1999 through 2008. More detailed information on fish taxes on St. Paul is not presented due to confidentiality considerations triggered by the low number of processors in the community.

Table 2.2-15. St. Paul Municipal Revenues, 1999–2008

Revenue Source	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Local Operating Revenue										
Taxes	\$3,202,626	\$776,776	\$731,714	\$916,945	\$883,736	\$825,026	\$929,771	\$945,637	--	\$1,901,816
License/Permits	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	\$0
Service Charges	\$236,278	\$296,191	\$287,860	\$179,172	\$269,807	\$773,598	\$286,404	\$233,475	--	\$625,246
Enterprise	\$3,157,798	\$2,270,137	\$3,057,536	\$2,915,306	\$3,433,592	4,661,523	\$5,988,5136	\$5,959,328	--	\$7,577,551
Other Local Revenue	\$411,091	\$299,824	\$1,006,046	\$504,840	\$302,673	\$230,795	\$184,951	\$396,148	--	\$217,417
<i>Total Local Operating Revenues</i>	<i>\$7,007,793</i>	<i>\$3,642,928</i>	<i>\$5,083,156</i>	<i>\$4,516,263</i>	<i>\$4,889,808</i>	<i>\$6,490,942</i>	<i>\$7,389,639</i>	<i>\$7,534,588</i>	<i>--</i>	<i>\$10,322,030</i>
Outside Operating Revenues										
Federal Operating	\$0	\$0	\$1,642	\$86,859	\$0	\$53,225	\$385,581	\$91,605	--	\$92,562
State Revenue Sharing	\$95,090	\$42,789	\$0	\$29,472	\$0	\$0	\$0	\$0	--	\$0
State Municipal Assistance	\$0	\$14,303	\$0	\$10,457	\$0	\$0	\$0	\$0	--	\$0
State Fish Tax Sharing	\$752,836	\$97,195	\$50,337	\$24,834	\$23,799	\$358,890	\$383,651	\$330,273	--	\$711,036
Other State Revenue	\$59,727	\$1,810,397	\$377,200	\$258,066	\$415,340	\$600	\$53,398	\$600	--	\$182,619
Other Intergovernmental	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	\$0
State/Federal Education Funds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	\$0
<i>Total Outside Revenues</i>	<i>\$907,653</i>	<i>\$1,964,684</i>	<i>\$429,179</i>	<i>\$409,688</i>	<i>\$439,139</i>	<i>\$412,715</i>	<i>\$822,630</i>	<i>\$422,478</i>	<i>--</i>	<i>\$986,217</i>
Total Operating Revenues	\$7,915,446	\$5,607,612	\$5,512,335	\$4,925,951	\$5,328,947	\$6,903,657	\$8,212,269	\$7,957,066	--	\$11,308,247
Operating Revenue per Capita	\$11,761	\$9,586	\$10,362	\$9,242	\$9,886	\$13,975	\$16,828	\$17,297	--	\$25,129
State/Federal Capital Project Revenues	\$165,470	\$1,338,810	\$0	\$480,753	\$806,253	\$107,461	\$6,090	\$37,398	--	\$3,726,774
Total All Revenues	\$8,080,916	\$6,946,422	\$5,512,335	\$5,406,704	\$6,135,200	\$6,903,657	\$8,218,359	\$7,994,464	--	\$15,035,021
Total All Revenues (2006 Constant Dollars)	\$9,778,587	\$8,132,396	\$6,278,456	\$6,058,875	\$6,722,045	\$7,367,799	\$8,483,467	\$7,994,464	--	\$14,078,114

Source: A. Logan, DCRA, personal communication, 2007, 2008; Melissa Taylor, DCRA, personal communication, 2010; Federal Reserve Bank of Minneapolis 2008.

The overall importance of the commercial fishery to the community may be seen in the fact that the local raw fish tax is the largest single local source of funds for the City of St. Paul. In terms of the relative importance of individual species, opilio crab is by far the most important commercial species for St. Paul processors and thus for revenues for the City of St. Paul, although it is not an important species for the individually owned local catcher fleet. Due to the recent drastic reduction in opilio stocks (and quotas) starting in 2000, St. Paul has also recently shared in the receipt of Opilio Crab Disaster Funds, as has the Aleut Community of St. Paul and the CBSFA.

As can be seen in the table, a significant change in municipal revenues occurred between the years of 1999 and 2000 as a result of the “crab crash,” an event still discussed in St. Paul as a reason for current (2010) economic hardships. While 1999 was a peak year compared to preceding years (with fish taxes in 1999 about double what they were in 1998 and about triple what they were in 1997), the dramatic economic shift that happened as a result of the reduction of opilio crab quota puts into perspective the current configuration of the local government. Since 2000, the City of St. Paul has had to diversify their revenue stream and make choices related to employment, level of service for residents, and outside funding.

This shift seen in 2000, which carries on to this day, results from the loss of more locally derived revenues and they are far less than full replacement with those from state or federal sources. Much of the decline in locally derived revenue sources can be traced to much lower crab landings in St. Paul that started in 2000 compared to those seen in 1999.

Based on more specific budget information obtained from the City of St. Paul, the actual decline in local fish taxes from 1999 to 2000 was 84 percent. The City calculated that its sales tax receipts from five of the most significant local business sectors (shoreside processors, mobile processors, fuel distributors, harbor services, and the municipality) decreased in a range of 62 to 85 percent (Lestenkof, personal communication, 2002). Given this state of revenue decline, the City of St. Paul reduced its workforce by about half, from 80+ employees to approximately 42, and for the remaining workers instituted a reduced work week of 36 hours instead of 40 (P. Swetzof, personal communication, 2002). Similarly, for TDX the decline in revenue flow from 1999 to 2000 was approximately 59 percent, the workforce was reduced from about 34 to 9 full-time equivalents, and remaining employees received a 10 percent pay reduction. A good deal of this was directly attributed to the decrease in crab landings in St. Paul (Bourdukofsky and Philemonoff, personal communication, 2002).

This level of employment carries on to this day, as opilio stocks have not fully recovered from their downturn in 2000. Northern share IFQ and IPQ landing stipulations have generally maintained a reliable tax base for the city, as the city is able to tax much of the crab landed in the north region. In several of the early years of the crab rationalization program, the City of St. Paul made an agreement with the City of St. George to share fish taxes earned on landings associated with processor quota shares historically accrued in St. George but landed and processed in St. Paul.⁶⁵ While these annual agreements were never formalized, beginning in 2006, the

⁶⁵ Processor quota that would have otherwise been processed in St. George, or been subject to right of first refusal provisions if moved elsewhere, were processed in St. Paul due to a lack of processing capacity in St. George (processing entities had exited the community prior to the implementation of the crab rationalization program) and a damaged harbor that was not sufficient to accommodate large catcher vessels or floating processors, effectively preventing the rebuilding of that capacity.

processing entities in St. Paul would communicate to the City of St. Paul how much of each community's quota had been processed. St. Paul would then calculate the fish tax associated with the St. George quota history and transfer 90 percent of that total to the City of St. George. At the time of the crab rationalization 3-year program review (2008), this arrangement was seen as a win/win for the communities, as St. George was able to receive the large majority of the taxes accompanying the landing and processing its historically associated crab quota, and St. Paul was able to strengthen its ties with neighboring St. George, while collecting a fee (10 percent of the St. George tax total) for the administration of the arrangement. This series of informal arrangements served to direct revenues to St. George that would have otherwise gone elsewhere. Since the 3-year program review, however, this arrangement has been discontinued, with the last check sent from St. Paul in December, 2008. The discontinuation of the arrangement was reported to be of great debate in St. Paul, but it was ultimately decided—in light of the ongoing national recession—that the city government of St. Paul had to protect the interests of its citizens first and foremost. It was, however, expressed that, in the event crab stocks rise and the economy improves, some type of tax-sharing arrangement may come back into being.

As can be inferred from Table 2.2-15, the city began to build revenue through other enterprises in 2007. This included fuel sales and other services. In 2006, the local operating revenues are similar to the level seen in 1999, despite a \$1.3 million difference in total tax revenue (in 2006 constant dollars). By 2008, the total operating revenue for St. Paul was higher than it had been since 1998, even with constant dollars applied. While the general perception of an economic downturn is present in St. Paul as a result of poor crab quotas, people interviewed generally shared that employment opportunities were good and that the standard of living had increased from recent years, although the ongoing national recession slightly affected the earning/spending power of some families on the island.

Projects completed for the city since the crab rationalization 3-year program review include the construction of a new fire station/CBSFA crane storage building. The new fire station/crane storage building was funded by the CBSFA, but is run by the city. In the recent past, fire-fighting equipment was stored in different places around town, creating a logistical challenge when a fire occurred. Now completed, all fire-fighting equipment is stored in a central location. The site of the new facility is on city land near the power plant, although a site more central to the main residential area of town may eventually be negotiated with TDX, the island's major landowner sometime in the future.

As noted above, construction of a new small boat harbor, a project that involved the City of St. Paul, the CBSFA, and the U.S. Army Corps of Engineers, has also been completed recently (fall of 2010). This project represents the latest significant fisheries development project in St. Paul. Once it is fully utilized, the facility should improve support infrastructure for the local fleet as well as outside vessels using St. Paul's harbor. At present (2010), the CBSFA plans to add a boat maintenance facility in the area of the small boat harbor, too, providing additional supporting infrastructure.

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 precontact 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 degrees Fahrenheit (°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. Similar to the situation described in the crab rationalization 3-year review, at present (2010) 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 Community Development Quota (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 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 2010, the mayor and three 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 three nonfisherman city council members, one now works for a telecommunications company after having worked at the city’s powerhouse, one is the owner of one of the local stores, and the other is a retired PPSF employee who now helps run a family apartment business in the community.

2.3.2.1 Total Population

Historically, King Cove has seen a large influx of nonresident 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.

According to the city administration, King Cove’s 2010 federal census population count has been completed and recorded at 914. Again, according to the city, about 300+ residents at the PPSF facility are now (2010) being counted as residents of King Cove.

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 Hawaiian 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 2010 for grades K–12 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, Fiscal Years 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
2009	101	103
2010	94	102

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 and August 2010. Local numbers from manual tabulation supplied by King Cove school staff, September 2002, October 2004, May 2008, and May 2010.

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.

In the King Cove school elementary grades, a total of four teachers in 2010 were assigned to grades 1 through 6, the same number as present in 2008. 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 as 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 K–12 special education teacher is included in the computation). In the high school division of the school, at present (2010), a total of seven teachers are assigned to six grade levels (again the same as 2008), for a teacher-to-grade level ratio of better than 1. According to the school principal in 2010, 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, as was the case in 2008, although housing shortages in the community continue to be seen as a challenge in recruiting and retaining staff.⁶⁶ In 2008, the school administration pointed 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 (UAA) Scholars Program; in 2010, school achievements included meeting the adequate yearly progress benchmark and all King Cove high school seniors passing the standardized high school graduation qualifying exam.

Despite these continuing academic achievements, school leadership reports that, as in earlier years, 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 2010 (as was also the case in 2008) compared to a number of recent previous years, this can be a powerful post-high school career draw for students. At the time of the crab rationalization program 3-year review (during the 2007–2008 school year), however, there was only one reported incident of a student taking time off from school to participate in a commercial fishing season and there were no reported similar situations in the two

⁶⁶ At the time of fieldwork in May 2010, a new four-plex being built by the Aleutian Housing Authority close to the school and clinic was nearing completion; reportedly two of the units were being earmarked for the school district and two were being earmarked for clinical providers. Additionally, the community center relatively near the school and clinic was planned to be converted into housing given the availability of excess community space in the old school building in the downtown area. The city is also interested in working with the Aleutian Housing Authority to build another four-plex for the purpose of housing a combination of teachers and police officers.

school years since then (2008–2009 and 2009–2010). In general, while school-aged King Cove residents commonly participate in the summer salmon fisheries (at a time when regular school is not in session), it is almost never the case that school-aged children participate in the winter fisheries, such as the winter cod and local Tanner crab fisheries, that would conflict with the school calendar. According to school staff, there is a certain amount of nonfishing-related background scheduling conflicts that are inherent in a number of rural Alaska schools, however, with an example cited of students missing a few days at the start of a recent school year because of their family being involved in seasonal tourism-related ventures in Cold Bay.

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. More recently, however, funding for these types of distance learning has been trimmed. In the 2009–2010 school year, only two students participated in these programs and both did so at their family’s own expense. In 2006–2007 and in 2007–2008, one student each 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 were enrolling in distance classes offered by UAF in the summer of 2008. Participation is variable by year, however, and subject to entrance requirements. For example, in the current school year (2009–2010) several King Cove students applied for the program, but none were accepted. During the recently completed school year (2009–2010), three King Cove students took part (via the video conference center) in an advanced placement English class that was taught in Sand Point. Future plans also call for the distance learning feed of advanced placement classes through the Anchorage school district. Also, during the 2009–2010 school year, King Cove was the site of an origin of distance learning class in geography that was given to students in AEB schools in False Pass and Nelson Lagoon, with such technology being particularly useful in a district that includes more than one school with very small enrollments. According to school staff, of the five high school students in the graduating class of 2010, two are planning to attend college in the fall, one is planning on attending vocational/technical school, one is undecided, and one pursuing a nonacademic route, having already completed an on-the-job training program in the community while still in high school.

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 boys’ 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. Although the team has missed the state playoff tournament in the subsequent 2 years, the team remains a focal point for social participation in and support from the wider community and the school is planning on hosting a Christmas 2010 tournament to draw other schools to play in the community. 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 multipurpose center (the old school building).

Despite the relatively large overall employment at the local seafood processor, according to school staff as of the time of the crab rationalization program 3-year review (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. According to current (2010) interview data, a total of nine children from five families whose parents were employed at the PPSF plant attended school in the community during the just completed school year. While several of these children were bilingual, all were sufficiently proficient in English that language was not an impediment to learning. (There was reportedly, however, one family that was planning on enrolling non-English-speaking, or limited English-speaking, children in the school during the 2009–2010 school year, such that the school made arrangements with other people affiliated with the PPSF plant to act as translators or teaching assistants for the children, but the family in question decided against residing in the community before their children began attending school.) 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, now as in the past 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 themselves fairly limited, with a few exceptions, such as sometimes in Sunday morning church services and at adult recreation nights at the gymnasium in the multipurpose center at the old school.

In terms of overall cultural diversity, senior school staff characterize the school as currently (2010) 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, much the same situation as described in 2008. According to school officials, however, there are plans to expand the use of some Aleut language terms that have already begun to be used in the school in limited instances and, in general, it is the desire of the present school administration to bring more of a local cultural context into the school than is the case at present.

According to school staff, two children of King Cove families are currently attending the Mt. Edgecumbe school (in Sitka) as an alternative to high school in King Cove, up from one student reported attending in 2008, although at that time another student had just 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. 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), but as of 2010 this is reported to not be an issue at present. According to interviews with senior school staff in 2008, while approximately a half-dozen King Cove high school graduates were then enrolled in college, it had been a number of years since any King Cove school alumni had graduated from college. According to more recent interview data, there are currently (2010) about six graduates attending college (the same as in 2008), but one King Cove alumna graduated from UAA and one graduated from the University of Hawaii in 2010.

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

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. Selected Household Information, King Cove, 2000

Community	Total Housing Units	Vacant Housing Units	Total Households	Average Persons Per Household	Median Household Income	Family Households	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 addition to an annual cycle dependent on the seasonality of individual fisheries over a given year, the community is subject to social and economic changes associated with longer cycles of growth and decline in different fisheries. In the middle years of the first decade of the 2000s, for example, 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 experienced adverse local effects from a number of fisheries-related downturns as well as nonfisheries-related events. Given that many of the factors cited for these effects were 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 the growth that King Cove experienced was due in part to population movement from smaller regional communities in even worse economic shape. Although the local economy had largely rebounded by the end of the decade, as measured by indicators such as local municipal revenues, the population dynamic involving the community and net population flow from its less economically well-off smaller neighbors is likely to continue but this type of growth is not likely to strengthen the local economy.

One indirect source of fisheries income in the community over a number of the years in the past decade (2000–2010) 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, a pattern confirmed during interviews in 2010. 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 5-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 Community Harvester Characterization section below 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. Table 2.3-10 provides estimates of crew members for King Cove for the years 2000 through 2009. 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 2000–2009

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
2007	51	115	166
2008	52	104	156
2009	50	115	165

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

Overview

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 (2010) 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, as also reported in 2008.

Crab Vessels

According to interviews with local fishermen, the *Northern Spirit* (at 95 feet) was the only locally owned vessel larger than 58 feet in King Cove immediately prior to crab rationalization. At the time of the crab rationalization 3-year program review (2008), it was also the single locally owned vessel that was then participating in and received an initial allocation of catcher vessel owner quota shares (“A” shares and “B” shares) for the open fisheries involving rationalized species of BSAI crab, although its pattern of participation had changed since rationalization.⁶⁷ While in at least some former years it participated in both the Bristol Bay red king crab and the opilio crab fisheries, it only did so once (in 2000) during the 1998–2008 time span. In all other years during this span, the *Northern Spirit* fished in the Bristol Bay red king crab fishery, but not in the opilio crab fishery. More recently, the owner of the *Northern Spirit* sold his rationalized crab catcher vessel owner quota shares⁶⁸ and, since the last year the *Northern Spirit* fished those quota shares (2008), no crab catcher vessel owner quota (either in the form of “A” shares or “B” shares) or catcher vessel crew quota (“C” shares) have been fished on any locally owned vessel either by a quota owner or a leasee. Prior to crab rationalization, the *Northern Spirit* was the only locally owned vessel larger than the 58-foot-limit boat that trawled, and at the time of the crab rationalization 3-year program review, it remained the only locally owned larger than 58-foot-limit boat that trawled. According to a family member who also is a local fishing vessel captain, however, the *Northern Spirit* has not trawled in more recent years, focusing instead on tendering (when the vessel is run by a son of its owner) and potting for cod (during which time the vessel is still typically run by its owner).

Also according to local interviews, the *Denali* (at 82 feet) and *Gayla Maureen* (at 95 feet) are former BSAI crab vessels that were owned outside of the community⁶⁹ prior to rationalization, but were both captained and primarily crewed as BSAI crab vessels by King Cove residents and were operationally based in the community immediately prior to rationalization. Further, one local King Cove resident had a minority ownership interest in the *Denali* prior to rationalization (and who, as a result, was allocated BSAI crab catcher vessel owner shares in proportion to his degree of ownership of the vessel and associated qualified catch history; this same individual was also the skipper, since 1988, of the vessel he partially owned). Since rationalization, both vessels left the rationalized BSAI crab fisheries, and both were purchased by King Cove residents⁷⁰ who were their captains during the rationalization qualification period. These vessel purchases by local residents did not include the large majority of the catcher vessel owner quota

⁶⁷ While this analysis focuses on the two rationalized BSAI crab fisheries of greatest economic importance by far, the Bristol Bay red king crab fishery and the Bering Sea snow crab fishery, the *Northern Spirit* catch history also qualified for Bering Sea Tanner and Bering Tanner East catcher vessel owner quota shares in addition to Bristol Bay red king crab and Bering Sea snow crab catcher vessel owner shares.

⁶⁸ The sale of these catcher vessel owner shares was triggered, according to a family member, by the owner wishing to retire, having surpassed common retirement age a number of years ago and the fact that the *Northern Spirit* is an older vessel.

⁶⁹ The *Denali* is shown in the 1998–2010 crab dataset as having Friday Harbor (Washington) ownership for the years 1998–2005 and then as a King Cove-owned boat thereafter. The *Gayla Maureen* is shown as being a Seattle-owned boat from 1998–2001, a Friday Harbor-owned boat from 2002–2005, and then a King Cove-owned boat thereafter.

⁷⁰ While both individuals are considered King Cove residents, one of these individuals spends at least a portion of each year at a second residence outside of the community and the other spends approximately half of each year living outside of the community.

associated with the catch history of these vessels.⁷¹ Those catcher vessel owner quota shares were sold by the heirs of the original allocatee (the owner/majority owner of the vessels during the crab rationalization program qualifying period) to entities outside of King Cove, although the catcher vessel owner shares allocated to the local resident who was the minority owner of one of the vessels have been retained by that individual to date (2010).⁷² With the sale of the catcher vessel owner quota shares affiliated with the *Northern Spirit*, the catcher vessel owner shares retained by the former minority interest owner and now outright owner of the *Denali* are the only King Cove resident-owned BSAI crab catcher vessel owner quota shares for fisheries that have been open since the implementation of the rationalization program.⁷³ According to the owner, however, since the rationalization program began, these catcher vessel owner shares have never been fished off of the *Denali* or any other King Cove boat. Both the *Denali* and the *Gayla Maureen* 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). Currently (2010) the *Denali* tenders salmon (and is reportedly one of the few vessels that can tender from both sides of the vessel at once, taking set nets to port and seines to starboard) as well as cod and pollock (which were tendered by the vessel for the first time during the winter of 2009–2010), while the *Gayla Maureen* tenders salmon, cod, and pollock as well. According to its owner, the *Denali* has fished Dungeness crab every year since he purchased the vessel in 2007. At present (2010) one of the owner’s sons runs the vessel during winter tendering and another during summer tendering, while the owner himself runs the vessel during Dungeness season.

The current (post-rationalization) owners of both the *Denali* and the *Gayla Maureen* received at least some level of allocation of crew shares (“C” shares) of Bristol Bay red king crab and Bering Sea snow crab under rationalization, but both individuals are reported to be currently (2010) leasing out those shares to non-King Cove-based operations as was also the case at the time of the crab rationalization program 3-year review (2008). Aside from the *Denali* in one year (2006), neither the *Denali* nor the *Gayla Maureen* has attempted to fish these shares directly rather than leasing them out, 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 the *Northern Spirit*, who is the son of the owner of the *Northern Spirit* and received Bristol Bay red king crab but not Bering Sea snow crab catcher vessel crew shares, no other King Cove residents⁷⁴ received initial allocations of “C” shares for the Bristol

⁷¹ The former captain and now owner of the *Denali* notes that the catch history of the vessel was not as useful under the rationalization program as would have otherwise been the case due to the concentration of the vessel on the bairdi fishery from 1988–1996, as opposed to the opilio fishery, given that the initial allocations of bairdi quota share were handled differently than those of opilio with respect to the role of catch history in those allocations.

⁷² In addition to Bristol Bay red king crab and Bering Sea snow crab catcher vessel owner quota shares, the catch history of the *Denali* also qualified its owners for catcher vessel owner quota shares in the Bering Tanner East fishery. According to the crab dataset, the catcher vessel owner shares have been retained by the local King Cove share owner in all fisheries except for Bering Sea snow crab north delivery shares, which were apparently sold between the 2008–2009 and 2009–2010 seasons.

⁷³ Two other King Cove residents also own catcher vessel owner shares in BSAI rationalized crab fisheries. Both of these individuals own quota share in the Pribilof blue and red king crab fishery only, which has not been open during the crab rationalization post-implementation period.

⁷⁴ One other crab vessel crew share initial allocation recipient shown in the crab rationalization community analysis crab dataset is listed as a King Cove resident. Based on interviews with knowledgeable local residents, however,

Bay red king crab or Bering Sea snow crab fisheries under the BSAI crab rationalization program.⁷⁵ The holder of the *Northern Spirit* affiliated “C” shares fished those shares on the vessel until the vessel owner recently sold his catcher vessel owner quota shares. During the first year following that sale (2009), the vessel-affiliated catcher vessel crew quota shares were neither fished nor leased out, according to their owner, but there are plans to either lease or sell the shares this year (2010).⁷⁶

Three other vessels with apparent local ownership ties to King Cove also show up in the BSAI crab fishery 1998–2010 dataset⁷⁷ utilized for the quantitative portion of this 5-year crab rationalization review as having landings in Bristol Bay red king crab and/or Bering Sea snow crab, but none of these vessels qualified for initial allocations of quota for these fisheries under the rationalization program, which is consistent with information developed independently in field interviews. One of these vessels, the *Just In Case*, 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, and then in only one of the years (2000) during the 1998–2010 period. Another of these vessels, the *Morzhovoi*, 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 (the *Mary J*) is shown in the 1998–2010 dataset as being locally owned and participating in the Bristol Bay red king crab fishery from 1998 through 2000 and from 2002 through 2003, and in the opilio fishery from 1998 through 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 fishery 1998–2010 dataset as having Seattle ownership in 2004 and 2005 and Seward, Alaska ownership thereafter. (A fourth vessel [the *Four Daughters*] appears in the data as participating in the 1998 Bering Sea opilio fishery under apparent King Cove ownership, but does not show up as participating in that fishery in any other year or in the Bristol Bay red king crab fishery in any year covered by the dataset as a King Cove-owned vessel. The ownership attribution of this vessel varies considerably over the years covered by the dataset and in two cases it is shown in the data as being owned in two different communities in

while this person spent time in King Cove aboard vessels prior to rationalization, he never lived ashore in the community. In subsequent years in the crab dataset this individual is listed as a resident of Sitka (1 year) and then Cordova (4 years).

⁷⁵ The three local catcher vessel crew shareholders, in addition to receiving Bristol Bay red king crab shares (all three individuals) and Bering Sea snow crab shares (two individuals each), also received initial crew share allocations in the Bering Sea Tanner and Bering Tanner East fisheries (all three individuals), the Pribilof blue and red king crab fishery (two out of the three individuals), the St. Matthew blue king crab fishery (one individual), and the Bering Tanner West fishery (all three individuals).

⁷⁶ While no longer skippering the *Northern Spirit*, this individual has remained active in local fisheries, purchasing a salmon seiner from his father and participating in salmon, pot cod, and local Tanner crab fisheries, utilizing some of the same crew he worked with aboard the *Northern Spirit*.

⁷⁷ Crab rationalization community analysis dataset compiled by NPFMC staff (2010) from ADFG fish ticket and CFEC gross revenues data and used to generate the tabular data in Chapter 1 and Attachment 1.

the same year [one community each for the Bristol Bay red king crab and Bering Sea snow crab fisheries], including the year it shows up as a King Cove vessel. As a result of this pattern, combined with the minimal time it is shown as owned in King Cove, the *Four Daughters* is not considered a King Cove vessel for the purposes of this analysis.)⁷⁸

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, the *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 the *Denali* and *Gayla Maureen*. While the *McKinley* was reported by King Cove fishermen as captained and crewed by nonlocals (apparently primarily from the Pacific Northwest), the *Entrance Point* was captained by a Kodiak resident and regularly offered BSAI crab fishing crew opportunities to King Cove residents. Both the *McKinley* and the *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 the *McKinley* is currently (2010) pursuing East Coast fisheries (as was also reported in 2008), while the *Entrance Point* is salmon tendering for its new owner outside of King Cove. According to local fishermen interviewed in 2008, 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 the crab rationalization 3-year program review community profile. According to some King Cove fishermen interviewed in 2008, 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

⁷⁸ The *Four Daughters* ownership attribution illustrates the complexities of these data, but it is important to note that it is an extreme case. It is shown in the crab dataset as having Akutan-based ownership during the 1998 Bristol Bay red king crab fishery, the same year it had apparent King Cove ownership in the Bering Sea opilio fishery. Akutan ownership is also shown for 1999–2001 while the vessel participated in one or more BSAI crab fisheries, but during 2000, it is also shown as having Mankato (Minnesota) ownership for one of the BSAI crab seasons. Exclusive Mankato ownership is shown for 2002–2004, followed by exclusive Kodiak ownership for 2005–2006. Following 2006, the vessel is no longer shown as participating in either the Bering Sea opilio or Bristol Bay red king crab fisheries.

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.⁷⁹

Tendering

A total of five vessels are currently (2010) reported by local fishermen and PPSF plant personnel as tendering for the PPSF plant in King Cove, and these are the same vessels reported as doing so in 2008. These include three locally owned vessels, the *Northern Spirit* and *Denali*, which tendered salmon only in 2008, and the *Gayla Maureen*, which tendered both salmon and cod that same year. More recently, the *Denali* tendered both cod and pollock for the first time in the winter of 2009–2010 in addition to salmon, and the *Gayla Maureen* has added pollock tendering as well. A fourth vessel, the *Cape Denby*, was reported in 2008 as tendering both salmon and cod, hiring two local crew, and spending the year in King Cove, but having its owners live in Southeast Alaska. By 2010, this vessel also added pollock to its tendering duties, but included one rather than two local King Cove residents in its crew. The fifth vessel, the *Island Trader*, was reported in 2008 as tendering both salmon and cod and typically hiring two local crew members, but it was noted as being 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. By 2010, this vessel added pollock and herring to its tendering round and was also down to a single local King Cove resident in its crew. Among these tendering vessels, the *Northern Spirit* also currently (2010) fishes the local pot cod fishery (which it was also noted as doing in 2008) and the *Denali* fishes the Dungeness crab fishery which, according to its owner, it has done every year since becoming a local boat.

58-Foot Limit Seiners

The next largest vessels owned by residents of King Cove community, according to fishermen and harbormaster interviews, are a group of 58-foot-limit seiners. In 2008, these included the *Just In Case*, *Aleut Mistress*, *Lady Lee Dawn*, *Northern Dream*, and the *Pacific Quest*. The *Just in Case*, *Aleut Mistress*, and *Lady Lee Dawn* typically fish salmon, trawl for cod, and pot for cod. The *Northern Dream*, follows the same pattern, except it does not trawl for cod. The *Pacific Quest* pots and trawls for cod, fishes halibut, and tenders but does not itself fish for salmon. In 2010, all of these vessels were still locally owned and operating out of the community but the *Lady Lee Dawn* had added pollock to its harvest pattern and another 58-foot-limit seiner, the *Cap't Andrew* had been purchased by a local resident. The *Cap't Andrew*, which, prior to the start of the 2010 salmon season, has had two cod seasons and one salmon season as part of the local fleet, reportedly follows the fishery participation pattern of the *Just in Case*, with which it shares common ownership, except for harvesting pollock as well.

Other Local Vessels

There are also reportedly three locally owned vessels in the approximately 53-foot range as of 2010 (the same as there were in 2008), the *Northern Star* and *Desiree Dawn*, both of which

⁷⁹ For additional information on the cultural role of commercial fishing, its articulation with subsistence pursuits, and social changes associated with limited access fishery programs in King Cove, see Reedy-Maschner (2010).

typically seine for salmon and pot fish for cod, and the *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. These currently (2010) include three 48 foot boats owned by local residents, the *Shanna Jacole*, which pots cod and fishes halibut, along with the *Aleutian Star* and the *Saint Loretta*, which both fish salmon and pot cod. There are also 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.

Vessel Annual Rounds

According to local fishermen, the current (2010) annual round for larger local harvest vessels in King Cove in recent years is the same as that reported in 2008 and 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 pot cod 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 relatively few boats participating in the pot fishery although there is some year-to-year variation. 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 (2010), 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, a pattern also reported in 2008.

According to local fishermen in 2008, three local vessels did qualify to fish pollock; however, none were doing so at the time. At present (2010), according to local interviews, the *Lady Lee Dawn* and the Seattle-owned *Hot Spur* fish locally for pollock. In 2008 the *Hot Spur* was reported remaining in King Cove year-round and storing its gear in the community; currently (2010) it still stores gear in King Cove, but is described now as a more transient vessel. The *Alaska Lady*, formerly a locally owned vessel, in 2008 stayed year-round in the community and fished pollock and cod, but reportedly had not done so in previous recent years. At present (2010), it is estimated to spend approximately 7 months a year in the community and to have added salmon to its fishing round in recent years. A third vessel, the *Equinox*, another vessel owned by individuals outside of the community, also fishes cod and pollock locally and leases a gear locker in the community year-round, but this vessel does not currently (2010) remain in the community year-round, similar to the pattern described in 2008.

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 (2010) fishing sablefish, as was also reported in 2008.

According to 2001 and 2004 interviews, and confirmed in 2008 and 2010 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), a pattern confirmed in 2010 interviews.

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 the present (2010). 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.

In a pattern reported from earlier interviews and confirmed in 2010, the fact that most King Cove fishermen basically have a single outlet for local fish sales, especially for salmon in volume, 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 (2010) deliver salmon to a co-op, the Alaska Peninsula Fishermans Co-op, rather than to the PPSF plant. This co-op, according to mailing addresses on a membership roster provided by a local member, has 36 fisherman members, of whom 3 are from King Cove and 10 from elsewhere in Alaska (including 6 from Homer and 1 each from 4 other communities), with the balance (26) being from the Lower 48, particularly from Washington state, where the co-op is managed. This co-op charters two codfish freezer longliners to take direct deliveries from catcher vessels on the fishing grounds themselves from around June 5 or 6 through about July 20, 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 typically have been in the neighborhood of 5 to 10 cents per pound above PPSF King Cove prices in recent seasons, with the difference in some seasons being even considerably higher, but fishermen do not receive payment until the processed fish is sold. 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 good options for King Cove fishermen to deliver salmon in volume.⁸⁰ Reportedly there have been no cash buyers for salmon in the area for a number of years. The Aleutian Pribilof Islands Community Development Association (APICDA) typically sends out tenders from their False Pass plant, but the plant has a limited capacity, the tenders only cover a part of the range fished by King Cove salmon boats, and the plant has not been open every year in recent years. Regionally based Aleutia⁸¹ (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. A new option may be opening up in the form of a Snopac floating processor, however, that has spent time in the area in the past and is reportedly attempting to establish a more regular presence in the region in King Cove. Snopac reportedly has a different type of ownership structure than most processing companies, facilitating buy-ins from fishermen and offering a profit-sharing type of compensation structure in return. While this may open up a viable alternative market in the future for King Cove salmon fishermen, in practical terms it has not done so to date.

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. As reported in 2008 and still true in 2010, 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 in earlier years of this decade, however, local fishermen in past interviews 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 interviewed in 2008, 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 had begun to account for a larger proportion of Gulf of Alaska pollock deliveries. According to senior plant personnel in 2010, however, of the eight boats total fishing Gulf of Alaska pollock for the plant, only two were “outside” boats (that is, vessels from outside of Alaska), with a rough split in deliveries being estimated at perhaps 80 percent local/regional and 20 percent outside vessel deliveries.

In 2008, with one exception (*Northern Spirit*), BSAI crab boats that delivered to the local plant are from outside the community, typically from Kodiak or the Pacific Northwest. By 2010, none of the boats delivering BSAI crab to the local processor were local. 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 the time of the 3-year crab rationalization program review (2008) was still in the early planning stages of making fresh water available in that portion of the harbor, but this was not seen as a major impediment to attracting vessels to the facility as the largest part of

⁸⁰ Delivering to Trident Seafoods tenders is also a possibility, as these tenders work in the same general area, but relationships of fishermen to different processors who take the range of species that they deliver throughout the year reportedly diminish in practical terms the delivery options that they may have in theoretical terms.

⁸¹ Described in the Sand Point section of another set of recently produced community profiles (EDAW 2008).

demand was (and continues to be) for longer term mooring where water provision is not an issue. According to city staff, at present (2010) there are no definite plans in place to extend water service to this portion of the harbor, but it “should happen in the next year or two.”

With respect to crab, beyond vessels previously noted, three other local boats (58-footers) reportedly did qualify for catcher vessel owners quota in 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 (2010), as was also reported in 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.

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 blue and red 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.

Crew Participation

Prior to crab rationalization there was significant local direct crew participation in the Bering Sea crab fisheries on nonlocally owned vessels in addition to the 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 other than the locally owned *Northern Spirit*. At present (2010), that same individual has continued to crew on a crab vessel owned outside of the community but had changed vessels before the 2009 king crab season.⁸² Additionally, this individual did not crew aboard any vessels during the last two Bering Sea snow crab seasons (2008–2009 and 2009–2010) for two stated reasons: (1) increased lease rates of quota fished off of the boat (combined with the fact that all quota fished off of the boat was leased) and (2) taking over running of the family fishing vessel in King Cove, which participates in the salmon, pot cod, and local Tanner fisheries, the timing of the latter two of which conflict with Bering Sea snow crab harvest activities. This individual reported that these were year-to-year decisions and those may change in the future. Given the discontinuation of the *Northern Spirit*'s participation in the BSAI crab fisheries, the individual still crewing on a vessel from outside of the community during the Bristol Bay red king crab season represents the only direct involvement of King Cove fishermen in the BSAI rationalized crab fisheries as of 2010. 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 the locally operating tenders *Cape Denby* and *Island Trader*, which, as of 2010, were down to one local resident each. 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 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), UAA, for the AEB (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

⁸² Moving from the *Tempo Sea* to the *Kodiak*.

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 non-crab 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 and 2010 interviews.

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 5-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

As described in the crab rationalization 3-year program review profile, 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. Early in the first decade of the 2000s, PPSF representatives reported that they designed their local processing operations primarily around serving the smaller range of the catcher vessel fleet, and the fishery around the Pribilof Islands (Schwarzmilller and Sterling, personal communication, 2002).

Today (2010), as was also the case in 2008, in addition to salmon, the King Cove plant 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, as previously

noted, but BSAI pollock is obtained exclusively from larger-capacity nonresident boats. A roughly similar type of split is seen in the cod fleet. In 2008, local plant personnel estimated that around 20 percent of the Gulf of Alaska cod delivered to the plant came from Lower 48 boats, with the remaining 80 percent coming from King Cove and Sand Point vessels. In 2010, local plant personnel reported that currently the plant had 31 Gulf of Alaska cod boats and, of those, 6 (19 percent) were Outside boats. For the Bering Sea, on the other hand, of the four boats delivering to the plant, none were from the community, but senior plant staff believed that all were Alaska-based (Kodiak and Homer).

The current (2010) annual cycle of the plant is relatively consistent with a pattern that has been in place for several years, and as reported in the 2008 profile. 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 were not finished until the end of March, and final deliveries in at least some post-rationalization years extended out even longer. According to local plant management, during the 2009 Bristol Bay red king crab season, the final delivery to the plant was made on November 20, 2009, and during the 2010 opilio season, the last deliver to the plant was made on May 6, 2010. 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 overall, and Bering Sea pollock in particular, 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 or second 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 not on a regular basis, and 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, although a few vessels typically participate. 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- to late-November, and then from mid- (or late-) November to January 1, activity at the plant is confined to maintenance operations.

Physical changes to PPSF King Cove facilities that occurred between the time of the crab rationalization 3-year program review (2008) and the present (2010) include the addition of another salmon fillet line, adding a new sorting system to improve the quality of sockeye salmon, constructing a new mess hall building that includes housing units on the second story, demolishing an older building that was condemned, and converting the former community clinic building into PPSF worker housing.⁸³ Additional services added during this time include the tendering of Togiak male herring for PPSF fishermen.

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 and again through 2010.

⁸³ The former community clinic, located on PPSF land, was given to the city for use as a clinic and when that beneficial use was no longer needed, ownership of the structure reverted to PPSF.

With the slowing down and spreading out of crab seasons since BSAI crab rationalization, the number of workers present on-site has not changed 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 during the six busiest months of the year (January through March and again from June through August) 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 in the 2008 profile and confirmed through interviews in 2010. 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. As noted earlier, all of the BSAI pollock delivered to the plant comes from vessels from outside of the region while Gulf of Alaska pollock is primarily (approximately 80 percent) delivered by vessels local to the region (with six of the eight boats delivering Gulf of Alaska pollock to the plant in 2010 being local). 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 the *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 the *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 participated in the rationalized BSAI crab fisheries, but no longer does so, 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 PPSF management, during the 2009 Bristol Bay red king crab season 17 vessels delivered to the plant in King Cove and during the 2010 opilio season, 15 vessels delivered to the plant.

According to local plant management, in the years leading up to crab rationalization the *Steller Sea* typically came to the King Cove area to “help clean up” at the end of crab season. When the *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 are 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, and according to local sources, no floating crab processing platforms, affiliated with PPSF or other entities, have been used in the area. According to PPSF management interviews in 2008, in 2006 and 2007, the King Cove shore plant ran all of PPSF’s Bristol Bay red king crab and in subsequent interviews (2010) noted that this pattern has continued to the present (that is, through the 2009/2010 season). In 2007, the *Steller Sea*⁸⁴ 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. According to senior plant management interviewed in 2010, Trident has continued to custom process all of PPSF’s northern shares of opilio in 2009 and 2010.

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 (primarily salmon, but also some cod) 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,⁸⁵ has a tank storage capacity of 321,700 gallons (the same as was reported in 2008). 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 earlier (2008) interviews with PPSF management, as of 2008 fuel sales at the False Pass facility had not changed substantially since the implementation of crab rationalization, and according to PPSF management in 2010, there have been no major changes in the level of fuel sales in more recent years. According to 2008 interviews with City of False Pass leadership, however, local fish tax revenues are down due to floating crab processors no longer operating in the community since rationalization. Also,

⁸⁴ According to local plant management and as noted in the Unalaska community profile, the *Steller Sea*, formerly a PPSF-affiliated vessel during the years it was processing crab in and around King Cove, was purchased by Icicle Seafoods in 2008 and is no longer affiliated with PPSF.

⁸⁵ http://www.dced.state.ak.us/dca/commdb/CF_BLOCK.cfm, accessed 6/5/08 and 6/1/10.

according to 2008 interviews with 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 went 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,⁸⁶ and confirmed during 2010 interviews with PPSF management, 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.

In addition to PPSF, the BSAI crab analysis dataset shows that at least some BSAI crab processing has occurred in King Cove by other entities during the 1998–2010 time period, but in each of these cases the amount of crab processed by these other entities was relatively modest in comparison to the volume processed by PPSF and, in at least one case, this crab was custom processed at the PPSF plant. In the case of Bering Sea snow crab, the data are straightforward. While PPSF processed Bering Sea snow crab in every year during this span, a non-PPSF entity is shown as processing only during 1 year in this time span, when Steller Seafoods, Inc. is shown as processing in King Cove in 2000, prior to the implementation of rationalization. No processing entities other than PPSF show up in the Bering Sea snow crab processor data in King Cove in the years following the implementation of rationalization up to the present (2010). In the case of Bristol Bay red king crab, however, the situation is more complex.

During the years prior to rationalization that are covered by the dataset (1998–2004), Bristol Bay red king crab are shown as being processed by PPSF in King Cove every year. During 2 of those years, however, additional processing entities are shown in the data as having processed in King Cove (one additional entity in 2002 and two additional entities in 2003). It is assumed, however, that those represent custom processing, as the PPSF plant was, and is, the only physical processor in the community. In the years following rationalization covered by the dataset (2005–2010), PPSF is shown as processing Bristol Bay king crab every year. During 3 of those years, however, additional processing entities are shown in the processing data for King Cove (two additional entities in 2006, and one additional entity in 2008 and 2009). In 2006, this is assumed to represent typical custom processing arrangements that have been seen in a number of other communities. In 2008 and 2009, Aleutia first appears as the additional entity in the processing data. In a number of ways, Aleutia represents a special case of crab processing in King Cove, and one tied specifically to the community protection provisions of the BSAI crab rationalization program itself.

Aleutia affiliation with processing BSAI crab is unique among “non-PPSF” processing-related entities in King Cove during the years covered by the crab rationalization database (1998–2010), based on two factors. First is the volume of crab involved (while still far less than that processed by PPSF, it is far greater than the volume of crab processed by any other non-PPSF entity during this period) and second is the nature of the organization itself (it is not a traditionally structured seafood processing company).

⁸⁶ <http://www.ppsf.com/facilities/index.aspx>, accessed 6/5/08 and 5/26/10.

Formed in 2003 and originally operated through a 3-year state grant administered by the Alaska Fisheries Development Foundation, Aleutia was recognized by the State of Alaska in 2008 as a Regional Seafood Development Association. With the Aleutia brand essentially owned by the AEB, which has also assisted the group financially, Aleutia in general represents the fruits of a local area (Alaska Peninsula and Aleutian Islands) branding and marketing initiative. In recent years APICDA, the regional CDQ entity, has also become involved in the undertaking but does not own or operate Aleutia. (A more detailed history and profile of Aleutia is provided in an earlier produced set of community profiles [EDAW 2008]). Aleutia, initially focused on salmon, does not have its own processing capacity, but rather has its salmon products custom processed at the PPSF plant in King Cove and the Trident plant in Sand Point. Aleutia later came to own processor quota shares of Bristol Bay red king crab under the BSAI crab rationalization program through its status as the designated “right of first refusal entity” for processor quota shares in King Cove.⁸⁷ When a post-crab rationalization change in the corporate ownership structure of PPSF triggered the need for PPSF to divest a portion of its Bristol Bay red king crab processor quota shares under the provisions of the rationalization program, Aleutia exercised its right of first refusal to obtain those shares. The crab associated with those processor shares are still processed in the community (fulfilling the intent of the right of first refusal community protection measure built in to the crab rationalization program), and they are still processed at the PPSF itself, but the shares themselves are owned by Aleutia. According to interview information, while King Cove as a community has continued to benefit from those shares being processed locally due to the local economic activity generated, Aleutia as an organization reportedly has not found the venture profitable to date (2010), given the need to service its loan and other business conditions surrounding the execution of the processing of this quota. Further, the community of King Cove has not benefited from this arrangement in the form of retaining local fish taxes that would have otherwise exited in the community if the processing quota were to go elsewhere as, according to senior city management, the city has been giving those taxes back to Aleutia, in essence subsidizing, in part, the retention of those processing quota shares in the community.

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).

⁸⁷ Aleutia has been designated the “eligible crab community entity” for right of first refusal purposes under the auspices of the crab rationalization program for King Cove and the AEB since the inception of that program. The City of King Cove signs an annual agreement with Aleutia designating Aleutia as its right of first refusal entity; the AEB designated Aleutia as its right of first refusal entity for King Cove and Port Moller by assembly resolution (Resolution 05-14) in April 2005.

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 in most recent years. 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. This current (2010) pattern is the same as was described at the time of the crab rationalization 3-year program review (2008),

Air service to the community has become more problematic in recent years since regular jet (727) service and slower, but roomy turboprop (Electra) service by Reeve Aleutian Airways was discontinued (in 2000) 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 (and their luggage in and out) of King Cove and the region especially during peak fall hunting seasons when sport hunters (sometimes with their dogs) 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 commercial fishing and processing seasons when significant numbers of processing workers and lesser numbers of fishermen are coming to King Cove, 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, at least to a limited degree, relieve air passenger congestion difficulties. There have been a few reported instances when Alaska Airlines charters have flown directly from Seattle to Cold Bay and the hovercraft has made numerous trips back and forth to bring 100 or so processing workers to King Cove. However, city staff suggest that the hovercraft has overall had a minimal direct impact with respect to transporting processing workers. On the other hand, the presence of the hovercraft appears to have had an indirect impact by introducing a level of competition to the King Cove to Cold Bay segment that would appear to have helped to improve overall service. Additionally, the situation on the flights on the critical Anchorage–Cold Bay segment had reportedly improved by the time of the crab rationalization 3-year program review (2008) as PenAir was routinely using Saab 340 aircraft rather than Fairchild Metroliners for this run (and still [2010] continues to do so). Despite these conditions, 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, although PenAir reportedly does add special or extra flights when they can to facilitate movement of passengers primarily during times of peak commercial fishing-related demand.⁸⁸ The King Cove airport is located approximately 4.5 miles from the downtown area of the community. While there is a terminal building at the airport, it is not in routine use, with passengers typically waiting for flights in private or company vehicles. 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.

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. At the time of the crab rationalization program 3-year review (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. At present (2010) the hovercraft is operating on a regular, limited schedule basis, as noted in that same section below.

Passenger and vehicle ferry service is also available, although only seasonally, in King Cove. The 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 the frequency of service during these months has varied in recent years. At the time of the crab rationalization 3-year program review (2008), the service was provided once per month during operating months, a reduction from twice per month service that was offered the previous year. At present (2010), twice per month service is being offered and it is reportedly possible that service may be extended into the month of October. Additionally, the hovercraft service that links King Cove to Cold Bay does

⁸⁸ According to city officials, this has included some schedule changes, with different routes (primarily not stopping in Sand Point on some days on the way to and from Cold Bay and putting passengers on the early (4:00 a.m.) mail flights to Cold Bay, as well as diverting eastbound flights from Unalaska to pick up passengers in Cold Bay.

have limited ability to ferry vehicles as well as passengers between the two communities, as described in the local governance and revenues section below.

Taxi services are another type of business that derives benefit from local fisheries activity. At the time of the crab rationalization 3-year program review (2008) there was only one active taxi service, My Cab, in King Cove, operated as a family business and at present (2010) that is still the case. 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 was reported in 2008 as 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 (2010), as also reported in 2008, business is much more evenly distributed throughout the year. According to a 2008 interview, the situation was characterized as “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 were being moored in the harbor by the time of the crab rationalization 3-year program review (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 interview data, this had not translated into more business for the cab company, as crews were characterized as spending less money in town as they tended to leave the community immediately after mooring, at times on the same day they arrive, a situation that has continued to the present (2010).

Beside fishermen, My Cab ownership reported in 2008 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 (AC) store or the bar. There was 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 interview information gathered in 2008, 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. At the time of the crab rationalization 3-year program review (2008), the owners of My Cab, like the owners/operators of a number of other businesses in King Cove, pursued a diversified income strategy, which in this case (and at that time) involved the individual who was the primary driver seasonally running a salmon tendering vessel, during which time another person focused more on running the taxi business. More recently, this pattern has changed due to life circumstances. 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. As of 2008, in-town rates were a flat \$7, while fare to the airport was \$17 one-way for a single and \$12 one-way per person for groups. A flat \$30 per head, one-way, was charged for taxi service to the hovercraft landing. As of 2010, the flat rate to the airport was \$20, with per-person discounts given for groups.

Marine and Other Fuel Sales

As of the crab rationalization 3-year program review (2008), marine fuel services in the community were being provided exclusively by PPSF and PPSF was also the only supplier for everyday vehicle fuel needs in the community. This remains the case at present (2010). The City of King Cove in recent years built a fuel tank farm on city-owned uplands near the harbor, but at present (2010), as was the case in 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. At the time of the crab rationalization 3-year program review (2008), it was anticipated that the pipeline and capability would 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.) As of 2010, this has not happened, but the facility is capable of making marine fuel sales in an emergency or in urgent situations, such as a vessel needing to get out of the community during a time when the fuel facility at PPSF is plugged. The city does sell fuel to individuals as well as to a local fuel distributor (see below), but does not directly fuel vehicles.

Similar to what was reported in the crab rationalization 3-year program review (2008), there currently (2010) 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. The fuel delivery business had changed somewhat between 2008 and 2010, based on services provided to the City of King Cove. With the construction of the new conventional power plant, which is located near the new school building, waste heat for the plant reduced demand for fuel deliveries to the school facility. Also, during this time the City of King Cove itself increased its own fuel delivery capacity, reducing its reliance on Newman Oil Sales for transfer of fuel to municipal facilities.

Gear Hauling, Storage, and Vessel Watch Services

Crab pot hauling in King Cove is provided by a family business (Mack Trucking), and the structure of the business is the same at present (2010) as reported in 2008. 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 (the time of the crab rationalization program 3-year review), 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 in 2008, for the then-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 then-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 and this fishery at the time of the crab rationalization 3-year program review (2008) involved roughly 1,200 pots total to be moved annually for the 20 or so vessels fishing cod locally (with the number influenced by the state water fishery's 60-pot limit per vessel), a number that had been relatively constant in recent previous years. At present (2010), the owner of the business estimated that the number of crab pots moved per season per year is about the same as was seen in 2008, but there have been more cod pots moved in more recent years. Although pot movements related to the state water cod fishery have reportedly been occurring at about the same level seen in 2008, the federal cod fishery effort has increased, with estimated pot movements corresponding to about 200 pots being fished per vessel, as opposed to the 60 or 80 pots fished per vessel in previous years. All told, at present the company owner estimates about 3,500 active pots are stored in King Cove, most of which are typically moved three times per year, for a total of approximately 10,000 pot movements per year.

In terms of gear storage for BSAI crab vessels in particular, the owner of Mack Trucking noted that there is some gear storage business related to vessels that do not deliver locally, which has included an estimated four to five vessels, all from Kodiak, since the inception of the rationalization program. At present (2010), the owner enumerated a total of 17 active BSAI crab boats that store gear locally and use his services, of which 16 also deliver crab to the local plant.

In addition to pot hauling, Mack Trucking also has hauled seine gear in the past, but in 2008 interviews this service was described as being primarily handled by the City of King Cove. At present, this service is being exclusively being provided by the city, with seines being moved on pallets using a city-owned forklift. Mack Trucking also provides truck and skiff rental services, and the owner of Mack Trucking also provides boat watch services, although through a separate enterprise as described below. While the owner reported in 2008 that increases in revenues associated with the vessel watch business had roughly offset declines in revenue to Mack Trucking that occurred with vessel consolidation under the BSAI crab rationalization program (a pattern confirmed in 2010), pot movement revenues for the Mack Trucking enterprise itself are reported to be at present (2010) down an estimated 35 percent from what they were pre-crab rationalization (and would have otherwise been down closer to 50 percent from pre-rationalization levels without a price increase that occurred recently). Bush Truck and Equipment Rentals, operated by another local resident who is otherwise employed in the community, also rents out trucks and at least some equipment, 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 2010 (and unchanged since at least 2004). The large majority of this work in King Cove in 2010 is done by Mack Boat Watch, although there are at least two other individuals who derive at least a portion of their income from this type of work, as was the case in 2008. 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 Boat Watch, 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 individual who is both the owner of Mack Trucking and Mack Boat Watch 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, a pattern that was confirmed in 2010. 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. One of the other individuals who provides boat watch services reports doing so for approximately 20 years, but does not typically watch more than 10 vessels together with his wife, and has derived income from a variety of other sources over that time, including fishing and captaining the hovercraft. The other individual who provides boat watch services typically handles a modest number of vessels at any given time, and is otherwise employed by the city in the harbor department.

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 when interviewed in 2008, 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. As of 2010, the local pot hauling business owner reported that all pots on this land were being moved by their owners and none by the pot hauling business. According to KCC leadership in 2008, the KCC was not then charging for pot storage on its lands and had not for at

least 2 fiscal years, a situation reportedly unchanged at present (2010). 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, 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 will have been in business for 50 years as of December 2010, and 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 on a long-established basis. At the time of the crab rationalization 3-year program review (2008), some specialty personnel, such as radar technicians, did 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 though he is not continuously in the community. According to 2008 interview information, this individual, whose home is in Anchorage, was spending approximately 5 months annually in King Cove, with the balance of the year (when not at home) spent working on fishing vessels in other coastal Alaska (or even sometimes Pacific Northwest) communities as well as doing powerhouse work in some of the same communities, including Sand Point and King Cove. At present (2010), this individual reports spending time in King Cove off and on over the course of between 8 and 9 months of the year. 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 as well as in a van 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 when interviewed in 2008, 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 he 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. This pattern was confirmed as having continued through present (2010), with the observation that for

his type of work there is a relationship between vessel size and value of services, with larger vessels equating to larger fees per job.

At present (2010), there are additional marine mechanical services available on a more frequent basis in the community than was the case at the time of the crab rationalization 3-year program review (2008). An employee of NC Machinery, which specializes in Caterpillar service, does work in King Cove an estimated four to five times a year, supported out of a regional hub in Unalaska/Dutch Harbor. This person does work at PPSF and has also taken on projects at the city power plant and aboard vessels on an as-needed basis.

A related fishery support business in the community is marine filter sales, a business that at the time of the crab rationalization program 3-year review was a sort of partnership between the J&L Marine Repair mechanic and a local resident who has other business interests in King Cove and Cold Bay. 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. At present (2010), however, the J&L Marine Repair mechanic had essentially turned over the business to the other partner who is a local community resident (but who also has business interests outside the community, as well as other business interests in King Cove). The marine filter 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 (2010), the business does not have a permanent building but according to earlier interviews (2008) had plans 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 have potentially allowed 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 provided tool storage and workspace for the mechanic out of the weather. These plans have now (2010) been put on indefinite hold, with the mechanic no longer actively participating in the filter business and the overall level of demand for filters having decreased (however the planned groundwork for the filter business building has been at least partially completed with the donation of in-kind fill materials for the city's harbor spit expansion [described in Section 2.3.4.4] in exchange for excavation work where the building would be located). 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, at the time of the crab rationalization 3-year program review (2008), these vessels apparently more frequently stocked up on filters and related parts directly themselves rather than purchasing them in King Cove. More recently, while overall conditions remain the same, this business has picked up some local market share as PPSF has reportedly stopped locally stocking a number of items sold by the filter business. According to the person who currently (2010) operates the marine filter business, a number of crab boats still frequent the community to store and retrieve gear and/or make deliveries at the PPSF plant and also provide some revenue to the business, with nine vessels specifically named as relatively steady vessels in

terms of the time still spent in the community. However, as a result of rationalization, the business is reported to have lost five major vessel customers that typically ordered filters by the case, a level of purchasing not typically seen in the post-rationalization era.

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. The PPSF, in addition to their core function, also serves as a support service business to local and outside fishermen in a number of other ways. For example, the PPSF port engineer has been made available for boat work in the past, the plant sells bait to fishermen on an ongoing basis, and the plant also facilitates supply of vessels by receiving those supplies across its dock and storing them in its facilities until they are picked up by the vessels themselves.

Welding Services

There are two independent welding businesses (both one-man) in the community that do marine work (in addition to a welder locally employed by PPSF). 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 an individual who was previously more of a full-time commercial fisherman, while the other continued to be run as a part-time/secondary business or source of income by an active multiseason fisherman. At the time of the crab rationalization 3-year program review (2008), however, WWW is no longer a full-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 that time, the owner of WWW balanced work on an airport contract that he first obtained in 2007 with work at his welding business and summer salmon fishing, while the other welder in the community characterized his work as consisting of spill-over jobs that came up when the owner of WWW was out of town or otherwise not available. This pattern has continued to date (2010), although the owner of WWW has characterized his welding business as again being full-time; it can still be done while fulfilling his airport contract work, which has its heaviest demands in the winter, and salmon fishing, which has its activity peaks in the summer. The less active of the two local independent welders also made the observation when interviewed in 2008 that the remaining crab vessels in the post-rationalization fleet tend to be the better maintained vessels, requiring relatively less welding work (and other support 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. The owner of WWW reported that at present (2010) he derives no work directly from the crab fleet, whereas in years past it was not uncommon for a vessel to bring its own materials with it when it came to King Cove and he would work on the vessel using those materials. Last minute, pre-season rush jobs are also reportedly less common, with an example given of such a job being cutting a crane off a salmon tender and welding it on to a crab vessel on the eve of season opening 1 year in the pre-rationalization era. While particulars of individual incidents varied, this type of last-minute, often lucrative work was reportedly not uncommon in the race-for-fish era, and is not seen on crab vessels in the rationalized fishery era. Both welding businesses continue to derive work from the fishing fleet, including working on 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 the time of the crab rationalization preimplementation community profile (2004) and again at the time of the crab rationalization 3-year program review, there were four stores in the community. Two of these were larger, more general purpose stores and two were specialty operations. At present (2010), all four of these stores are still in operation, while recently a fifth store, another specialty store, has opened in the community.

Of the two smaller stores that were present in the community as described in 2004 and 2008, one is run by PPSF (the Peter Pan Seafoods Convenience Store [locally known informally as the “C Store”]) on its premises. At present (2010) it is open Monday through Saturday from 7:30 a.m. to 8:00 p.m. and on Sundays from 8:00 a.m. to 6:00 p.m. While it is open to the public, the store largely 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, although it reportedly has become known at least to some members of the community at large as a preferred place to shop for some specific items, such as meat. The other small store, Rams General Store, is currently (2010) open from 7:00 p.m. until 10:00 p.m. most of the year, a slight change from its 6:00 p.m. to 10:00 p.m. hours in 2008, typically 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 neighborhoods⁸⁹ 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. At present (2010) the store is also focused on being the premier digital video disc (DVD) rental outlet for the community. Under its current ownership for approximately 7 years, it is typically staffed by one individual at a time, with these workers drawn from the family of its owner. According to one of the family members who often works at the store and was interviewed in 2008, no outside crabbers ever visited the store pre- or post-crab rationalization implementation. A third small store in the community, King Cove International Market, opened April 1, 2010. Operated on a part-time basis by a married couple and located in the former King Cove School building, the store stocks Asian snacks, foods, spices, and sauces, noodles, whole grains, juice drinks, and kitchen tools, among a limited number of other things. The store is open Tuesday through Friday from 8:30 a.m. to 11:30 a.m. and then again from 6:30 p.m. to 8:30 p.m., and on Saturdays from 12:00 p.m. to 2:00 p.m. and then again from

⁸⁹ 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 (which has now [2010] been rendered obsolete by the city taking over the old school building in the downtown area for use as a community center, leading to alternate reuse plans yet to be executed for this 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 nor 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.

6:30 p.m. to 8:30 p.m., following the split schedule format common to a number of the other businesses and activities/events occurring in the multipurpose center located in the old school building. One of owners, who otherwise works at the King Cove Clinic, described running the store as something to do while being with his kids during the open hours at the community center, and at the same time providing the the community the opportunity to buy some types of healthy foods that are not otherwise available locally.

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 (2010) owned by a son of the founder and run by a grandson of the founder (a pattern also reported in 2008). 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 at that time only received orders from a “handful” of boats (estimated to be between five and seven per year). At present (2010) that number was down to “maybe a couple” of crab boats trading at the store on a regular basis although, according to the store’s owner, some more crab boats seem to have been coming back to the community than was apparently the case immediately after rationalization was implemented. Further, 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. These patterns were described in 2008 as well as 2010. At present (2010), the owner of Gould’s estimates that commercial fishing now accounts for less than 20 percent of sales at the store. There have reportedly been increases in sales to halibut vessels in recent years; however, these are relatively small vessels in terms of individual vessel orders when compared to crab vessels.

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 included 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. More recently (2010), according to interview data, the local market share of Gould's has reportedly stopped declining. Overall, however, declines in sales related to commercial fishing and on-line sales have resulted in the store carrying less inventory than in earlier years. It would also appear to be the case, according to store management, that local residents who can afford to do so order more goods directly from Seattle than was the case in the past (especially as facilitated by internet sales) and the people who live more day-to-day or paycheck-to-paycheck tend to shop at the local store. Positive developments at present (2010) include recent and ongoing construction projects in the community that have increased store sales in terms of direct sales to companies as well as sales to local residents earning employment income from those projects. The initiation of cellular telephone service in the community in the fall of 2009 has also provided a bump in sales at the store with the sales of cell phones.

Employment at the store is currently (2010) mostly family, with three 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. While there has been turnover of personnel during this time, this is roughly the same level of employment noted in 2004 (pre-crab rationalization) and 2008 interviews, except for the loss of one full-time position formerly held by a family member, but these employment figures are still down significantly from a total of 14 to 15 employees in even earlier years.

In a pattern described in 2008 and confirmed in 2010, when things get busier during peak fishing seasons, which is especially common during local salmon 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 reported earlier 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. These patterns were confirmed as still occurring at present (2010).

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 (2010) open Monday through Saturday from 10:00 a.m. through 6:30 p.m. for the grocery store and through 7:00 p.m. for the liquor store, and on Sundays from noon until 4:00 p.m., very similar to the hours of operation reported in 2008.

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. At present (2010), fishing vessels, both local and outside, are estimated to provide roughly 25 percent of sales at the store on an annual basis, but in some individual periods to account for over 50 percent of sales, a pattern reported to have been relatively stable over the past few years.

Local commercial fishing accounts for another large segment of the business at the AC store, but, according to the manager during an interview in 2008, 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. By 2010, processor personnel were reported to account for very little business at the store, typically frequently the store very little except to cash paychecks and purchase money orders to send to relatives outside of the community, an activity that brings in an estimated 100 customers twice per month. 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 general, the business patterns seen at the time of the crab rationalization 3-year program review (2008) were confirmed during fieldwork as continuing through the present (2010).

In terms of an annual cycle, the AC store manager in 2008 reported that a number of 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 an increase in February that then lasted through April. During late April and the month of May, activity at the store typically slowed, such that inventory was normally taken and general store improvement projects are also undertaken at this time. Although there was some halibut fishery-related business during this time, fishery-related activity did not increase again by a substantial amount until around June first, when salmon-related business started 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 previous 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 had been beneficial as well. It is likely that this general pattern still holds at present (2010), although sales were reported to have declined somewhat in 2009. Further, there was a turnover in store management 3 months before fieldwork for the crab rationalization 5-year program review, such that current store management could confirm the outline of the pattern from an understanding of store sales records, but not from personal knowledge of having experienced a full annual cycle in King

Cove in general or at the AC store in particular. Nonfishing-related seasonal peaks were also noted for times of issuance of Native Corporation dividend checks and permanent fund checks from the State of Alaska. While the store manager was new to the community, he was not new to AC store management or the region, and offered the observation that the King Cove AC store was different than other AC stores in his experience, functioning almost more as a large convenience store where a number of customers might be seen more on a daily basis, or even on a several-times-a-day basis, than a store where people do what would normally be considered weekly shopping for their families, reflecting, in his estimate, a relatively high degree of shipped-in groceries coming to the community. Roughly 60 to 65 percent of shopping in the store is currently (2010) estimated as being done on a credit basis through use of AC store accounts (which essentially function as a store credit card).

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-aged part-time employees during school summer vacation as extra stocking help. This level and pattern of employment at the store was confirmed in 2010. 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 numbers of customers were also utilizing Women-Infant-Children benefits. At present (2010), the store sees approximately 20 to 25 checks on the days that Women-Infant-Children benefit checks arrive (but the number of families using those checks is somewhat lower, as some families receive more than one check), but there is no good way to know the level of food stamp use at the store since the conversion of food stamp benefits to a credit card-like system that does not distinctly show up in store receipts. At present (2010) 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, the same hours of operation that were reported for 2008.

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 during an interview in 2008, 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 had by then included work in Cold Bay, Anchorage, and Adak. As is common in King Cove, this individual also pursued 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. By 2010, this individual was still pursuing a similar pattern of diversified employment income (still including summer salmon fishing in King Cove and power plant work in Cold Bay), but had not specifically had a dive project since the fall of 2009. Although this

individual also currently (2010) has a house in Adak (in addition to a residence in King Cove), business in that community is off since the seafood processing plant, which acted as a catalyst for a number of other activities, was closed during the previous year.

As reported in 2008, some King Cove vessel owners also derive some income chartering their vessels for a variety of tasks. 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. As of 2010, at least some chartering activity typically takes place with local vessels over the course of a year; no charters were known to be occurring at present.

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 especially from outside of the community can be seen in the tradition of crew writing out the names of their vessels with marker pens on dollar bills, typically one letter per bill to spell out the name, and putting these on the wall inside the bar. While this portion of the clientele is obvious from the bar décor, the owner does report that a greater proportion of the business of the bar derives from local residents than from persons off vessels from outside of the community, a reversal of relative importance than was reported in earlier interviews. In 2008, MC's especially reported deriving business from permanent local residents for pull-tabs, pool tournaments, and special events, with a more modest contribution to an overall steady business base, but their importance as part of that steady business base has grown over the years relative to business deriving from outside vessel crews. In 2008, processing workers from the local seafood plant were reported to also make up some of MC's business base, although currently they are not specifically targeted as a clientele segment as in some previous years, except for some special events. At present (2010), processing workers are characterized as "seldom" patronizing the bar. (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 nonpeak fishing seasons.) MC's bar currently (2010) 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), as was reported in 2008.

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, were 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 an interview with the owner in 2008, slow periods were similar, with June and July still being the lowest activity months of the year, with November and December also being slow. Peaks, however, had changed. January and February were 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 communities farther to the west to save run time and fuel costs). September and October were characterized in 2008 as busy months, with October being the peak month of the year, as there was an infusion of cash and activity in the community with the end of local salmon fisheries and the gearing up for fall fisheries. The pattern seen in 2008 was confirmed by interview with the owner as being the same pattern as that has continued to the present (2010).

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 in 2008 the bar employed three full-time bartenders and a fourth person to help with management and cleaning. Part of this increase was characterized as more apparent than real, however, as at least one of these positions essentially replaced a role the owner used to play. At present (2010), the bar employs two full-time bartenders and one part-time bartender, plus a member of the owner's family who cleans and does the books for the bar. During the busy times of September through October and then again in January through February, typically the hours of the part-time bartender are bumped up from 8 to 14 to 16 hours per week, but otherwise staffing levels remain the same throughout the year.

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 (the marine filters business described earlier). While no longer (2010) having other local employment (this had been discontinued prior to 2008 interviews), this individual still retains ownership interest in the marine filters support service business and has moved from a partial owner (as described in 2008) to having full control of the business in 2010. Post-crab rationalization, this individual has diversified their business ownership outside of the community through acquisition of the Bearfoot Inn in Cold Bay in early 2006. As of 2010, this enterprise employs three individuals full-time and one individual part-time, but these individuals are Cold Bay residents or individuals new to the region as opposed to King Cove residents. 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). The business has reportedly seen an increase in hotel occupancy of an estimated 6 to 7 percent over what was seen in 2008, with growth coming by word of mouth, particularly from hunters who frequent the Cold Bay area. For the owner of MC’s in King Cove, as is the case for the owners of a number of other businesses in the community and residents of the community in general, 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 in 2008, the bar was currently 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). Currently (2010) the bar characterized coming out “a little ahead” over break-even status. Employment associated with the bar includes a full-time bar manager and four part-time bartenders, but it also benefits from some support positions that are used to help operate a number of KCC undertakings (such as janitorial, maintenance, and administration positions). 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 (2010) there is a single independently run restaurant in the community, King Cove China, which opens at noon and closes between 1:00 a.m. and 3:00 a.m. daily. Located in a leased space in the KCC building, King Cove China is owned and operated by different individuals than those who owned and operated the restaurant at the time of the crab rationalization 3-year program review (2008). The current owners, as of September 2009, are a married couple, most recently from Phoenix, Arizona. They do have ties to the region, however, as the sister of the woman owner/operator of King Cove China is one of the owner/operators of the Aleutian China restaurant in Sand Point.⁹⁰ As the only operating restaurant in the community, King Cove China serves an eclectic menu, including 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 7:00 a.m. to 8:00 a.m., from 11:45 a.m.

⁹⁰ Although the former owners of King Cove China shared the same last name with the owners of the Aleutian China restaurant in Sand Point, leading some to believe they were related, that was not the case according to the current owners of King Cove China.

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 earlier years, King Cove had a pizza and submarine sandwiches restaurant (Uptown Pizza) that operated out of an addition to the home of the restaurant owners, but at the time of the crab rationalization 3-year program review (2008) this entity supplied an occasional pizza for special events, but was otherwise not open. At present (2010), however, Uptown Pizza is preparing food on a limited but regular schedule, operating Wednesday through Friday from 5:00 p.m. to 8:00 p.m. on a delivery or take-out basis only. Another former bakery/burger/ice cream shop (A&E's) that operated only seasonally at the time of the 2004 profile had permanently closed by the time of the crab rationalization 3-year program review (2008) and the building was being converted to residential use at that time. In June 2007, however, another establishment, Jane's Java Jungle, opened. This small business, originally located on the boardwalk next to the KCC building, serves espressos, mochas, lattes, and the like; Italian sodas; and smoothies and was, at the time of the previous profile (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. It was operated by a single individual, usually the owner, with extra help added during especially busy periods of the year. More recently, this business moved to the multipurpose center in the old school building and is now (2010) open Monday through Saturday from 8:00 a.m. to 11:00 a.m., 2:00 p.m. to 4:00 p.m., and 6:00 p.m. to 8:00 p.m., paralleling, at least in part, the split schedules followed by a number of other businesses/programs in the same facility. Jane's is closed on Sundays. It is typically staffed by its owner, who will add additional help, usually school-aged persons, during the summer busy periods.

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. At the time of the crab rationalization 3-year program review (2008) a total of six of the rooms of the Fleets Inn, representing half if its capacity, are leased for about half of the year by PPSF for company employees during peak processing seasons, typically from January into April and again from June into August. At present (2010) this has extended into early September, bringing the total closer to 8 months per year. Additional rooms are rented by the processor in overflow situations and not infrequently by other fisheries-related guests, such as buyers for PPSF products, 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, as reported in 2008, 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 the owners of this business, the Salmonberry B&B opened for business in 2004. Guest facilities essentially consist of two bedrooms with a shared bathroom in a family residence, with guests sharing other common areas of the house with the resident family. As of 2008, the bed and breakfast had an estimated occupancy of approximately 100 nights per year and as of 2010 the business was doing well enough that expansion is being planned, despite a complete lack of advertising. It is located near the new King Cove School and

King Cove Clinic, and it typically draws professionals as its clientele, including transient health care providers, school district personnel, legislators, and persons in town on city and borough business. 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 (2010) 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. At present (2010), KCC is managing subsurface rights to these resources for the regional Aleut Corporation through a management agreement, which entails splitting returns between the two entities. Significant sales for roadway improvements have been made in recent years and, with the road “to the northeast corner” to extend the road to a hovercraft landing area closer to Cold Bay recently having been funded by the AEC, the KCC appears to have a continuing market for substantial sales. The land used for sand and gravel operations, to which the KCC owns surface rights, also provides some of the KCC’s crab pot storage capacity, although the KCC currently (2010) is not actively charging or collecting fees for this service, nor have they for at least several years. As reported in the 2008 profile, 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. Though not a fishery-related undertaking, the KCC continues to lease some of its land for bear hunting, which alternates between spring and fall seasons annually. At present (2010) there are three guides with whom KCC has well-established relationships who lease these lands, and at times these outfitters come through town with their guests, which does generate at least a modest amount of sales at a few of the businesses in King Cove.

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 (2010) 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 2008 interviews with 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 had not yet come to fruition, nor has it happened to date (2010), although the interest in doing so on the part of KCC

remains. According to interviews with Belkofski Tribe staff, the Belkofski Corporation is without a president and an office at present (2010).

At the time of the crab rationalization 3-year program review, the KCC employed 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 included three bartenders, one janitor, one maintenance worker, and two individuals who help in the office. According to KCC leadership, at present (2010) the KCC employs four individuals full-time (the corporation president, a secretary, a janitor, and the bar manager), and a total of six individuals part-time (four bartenders, a finance administrator, and a maintenance person), although in normal circumstances one of the part-time positions (maintenance) would be a full-time position.

At present (2010) the KCC is exploring the potential for additional business opportunities through the use of 8(a) certified corporations to obtain federal funding. An entity called “King Cove Holding Company” has been formed and KCC is in the process of pursuing 8(a) certification for several different LLCs.

Agdaagux and Belkofski Tribal Operations; Aleutian Pribilof Islands Association

The Agdaagux Tribe, which represents the traditional Alaska Native government of King Cove, has a membership of 766 members as of 2010, of whom 360 live in King Cove,⁹¹ according to tribal leadership. At the time of the crab rationalization 3-year program review (2008), the Agdaagux Tribe provided six full-time and two part-time employment positions in King Cove on an ongoing basis, a level of employment that apparently had been relatively steady for several years (including a number of years prior to BSAI crab rationalization). At present (2010), the tribe employs three persons full-time (a secretary/receptionist in the tribal office, an Environmental Protection Agency Indian General Assistance Program [IGAP] local coordinator and an IGAP assistant) and five persons part-time (an administration/finance person, plus four persons involved in gaming operations [one of whom works less than 30 hours per week and three of whom work less than 20 hours per week]). 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, although the tribal administrator describes these programs as being somewhat in flux at present (2010). For social programs, the tribe will typically work with the regional Aleutian Pribilof Islands Association (APIA); the regional Aleutian Housing Authority for housing programs; and the regional Eastern Aleutians Tribes organization for medical, behavioral, and dental health care 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

⁹¹ This is not the total number of Alaska Native residents of King Cove, as it does not count residents who are members of the other locally based tribe (the Belkofski Tribe, discussed below), nor individuals who are current community residents but members of tribal entities from elsewhere in the region or state.

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, as of 2008, 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. At present (2010), the current administrator describes the local economy and community as fairly stable, although there is reportedly an acute need for additional housing in the community.

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 the time of the crab rationalization 3-year program review (2008), the Agdaagux Tribe had no major construction projects underway, but it had worked with the City of King Cove to secure funding for a downtown area roadway improvement project, which was to include paving. At the time it was scheduled to begin in the summer of 2008, this \$6-million-plus project was expected to run through 2009 and provide significant local construction employment. At present (2010), roadway preparation work for a major paving initiative throughout the community is still underway, with the paving itself anticipated to take place in the summer of 2010. The tribe continues to work with the city to obtain BIA funds for these types of construction opportunities, and associated training programs, passing the money through to the city for the execution of the work. Other ongoing (2010) tribal-related projects include an Aleutian Housing Authority crew performing weatherization work on housing in the community. In terms of projects being pursued in the near term, the tribe is also working with the KCC and the city to expand and/or otherwise improve the landfill by obtaining a burner to lessen the environmental impacts of the landfill.

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 the 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. At the time of the crab rationalization 3-year program review (2008), tribal staff estimated that the Belkofski Tribe had between 60 and 65 members, with more members in King Cove than in any other community, a number and pattern confirmed by tribal administration as still being accurate at present (2010). As of 2010, it was estimated that between 12 and 16 members live in King Cove at any given time, of which 7 were enumerated by name by the tribal administrator as being local fishermen. Formerly housed in the KCC

building, the Belkofski Tribe offices moved to the multipurpose center in the old school building in late 2008, although the tribe is planning to break ground for a stand-alone office building in the summer of 2010. In 2008, tribal employment consisted of 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, was vacant at the time.) Current (2010) tribal employment is described as two positions that are directly attributable to the tribe (the two environmental program employees described in 2008) and two positions that are jointly funded through the APIA and the tribe. The tribe is also in the process of developing a job description for an elder's advocate position and exploring grant sources for funding to underwrite the position. The current major undertaking of the Belkofski Tribe described in 2008 was the environmental cleanup of the Belkofski village site, which has experienced environmental impacts from oil, asbestos, and lead paint, among others. Currently (2010), this project is still going on, but more in the background as environmental contamination from lead-based paint and asbestos is no longer expected to be an issue so long as the existing, boarded up structures in the former community are still standing, and those issues will be addressed when the buildings come down. In King Cove itself, in 2008 the Belkofski Tribe was 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. At present (2010) the focus of environmental efforts are working on landfill "white goods" issues (primarily appliances that are taken to the landfill), invasive species issues (such as the slugs that have become locally problematic), and energy conservation. The Belkofski Tribe also sells pull-tabs out of their office in King Cove on weekdays. In 2008, 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 were perceived in 2008 as becoming stronger recently, reportedly the simultaneously occurring rise in the cost of fuel and, in the case of cod, bait has 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.

The APIA recently (October 2009) opened an office in King Cove and moved into their present location in the multipurpose center in the old school building the following month. The office is staffed by one person who works a total of 30 hours per week (9:00 a.m. to 12:00 p.m., and 1:00 p.m. to 4:00 p.m.), but the APIA does foster other employment in the community through administration of the Head Start program, which is run out of the King Cove School. Other programs run through the APIA in King Cove include vocational rehabilitation, emergency assistance, adult basic education, and employment training.

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 had engaged in commercial fishing in the past, he reported in 2008 that there was 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. As an example of the fluidity of employment strategies in King Cove, however, when interviewed in 2010 this individual was again running his father's fishing vessel for a part of the year and undertaking construction work the rest of the year, even though there was reportedly no shortage of opportunities for construction work. Rather, the decision of what employment/income strategy to pursue at any given time was apparently a combination of family and individual circumstances, subject to revision based on seasonal variations in opportunities as well as larger life circumstances. 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). At present (2010), however, the local municipality has been characterized as being in as strong a position as it ever has been, based on level of revenues, even if direct employment had seen higher peaks in earlier years, and limited-duration infrastructure improvement employment has been at least seasonally available above and beyond the baseline for permanent employment for a number of years. 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.

One business that recently (October 2009) opened in the community that does not fit any of the previous sectors described is Willmart. Owned by an individual who is a foreman at PPSF who has been in the community since the early 1990s, this person saw a demand for a number of types of products not carried in other stores and could be supplied locally as an alternative to mail order, which can get delayed by weather and other vagaries of the local transportation system. Housed in a leased space in the multipurpose center in the old school building, Willmart stocks a range of clothing, including sweats, jeans, hoodies, hats, and socks, mostly of styles oriented toward teens and young adults; some jewelry and make-up items; and electronic goods including computers and DVD players. Open from 7:00 p.m. to 9:00 p.m. Monday through Saturday, the owner reports that the store's customer base includes community residents, PPSF workers, and sometimes crew from outside fishing vessels that call on the community. The only employee of the enterprise is its owner, who related the decision to open the store to a slow-down in fisheries activity that allowed him more free time. The hours of the store are coordinated with other enterprises and activities that bring people to the multipurpose center and are such that the owner is still able to pursue his full-time employment.

Community Centers and Recreation

While not a support business, at the time of the crab rationalization 3-year program review (2008), the City of King Cove had 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 housed 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 functioned both as a community-related and fishery-related transient population resource. In 2008, there had 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 had 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, was operated by the City of King Cove Recreation Department for community recreation. In 2008, the recreation department also operated a teen center adjacent to the old school building downtown, and a community center near the new school site. The community center was the location for a variety of community and private special events, such as weddings, that drew participants from all sectors of the community, and it was also the location for local Boys and Girls Club activities. The community center was 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.)

At present (2010), there have been a number of changes in recreation in the community with the conversion of the old school into a multipurpose center (sometimes called "the MPC"). First, the old clinic building that was being used as a recreation center at the time of the 2008 profile had reverted to PPSF control and was subsequently remodeled for PPSF worker housing. Second, the community center near the new school and new clinic now represents surplus space and is planned to be converted to housing, likely a duplex for use by school personnel. Third, entities that were housed in the converted former clinic have moved into the multipurpose center at the old school, along with a few new entities. Current city-related uses of the facility include the co-op, which is open from 12:00 p.m. to 2:00 p.m. and then again from 7:00 p.m. to 9:00 p.m. and sells donated clothing, shoes, and accessories, with proceeds going to fund recreational staff; a library, which is open during those times the co-op is open and provides a space for individuals to relax, read, watch television, work on puzzles, etc., which is reported to be particularly popular with PPSF workers desiring a break from their combined workplace/residence; an exercise room that is normally open during the hours the recreation director is on duty in the building (typically 10:00 a.m. to 6:00 p.m.) and available for use for a nominal fee; a teen center that includes pool, air hockey, and other games along with soda pop and an ice cream maker and is open evenings from 7:00 p.m. to 9:00 p.m. on weeknights and 7:00 p.m. to 10:00 p.m. on weekends, with longer hours in the summer, and available for use by teens only who pay a nominal club fee; public computers with internet connections in the recreational supervisors office; supervised open gym from 6:00 p.m. to 9:00 p.m. (with 6:00 p.m. to 7:30 p.m. reserved for younger kids and 7:30 p.m. to 9:00 p.m. for older kids); and an elder's room that is used on an intermittent basis for elder-related events, such as a monthly dinner put on by one of the local Eastern Aleutian Tribes staff members. The recreation department also provides a number of other classes or programs at the facility, depending on interest, which has recently included a ceramics class. The city and others also hold public meetings in the multipurpose center, including council meetings and scoping sessions. Space is also leased in the facility by a number of entities noted earlier including private sector uses (Jane's Java Jungle, the International Market, Laura Jr. Gifts [although this business is not operating at present, it formerly operated in the facility and is currently storing inventory there in anticipation of reopening at some point],

and Willmart) as well as some governmental/nonprofit entities (the Belkofski Tribe and the APIA).

According to city staff, the recreational opportunities offered by the city are important to the quality of life in the community and represent a priority for funding by the city. With a current (2010) recreation department operating budget of around \$300,000, the city supplements the funding for the department in the amount needed to bridge the gap between the expenditures (the budgeted amount) and revenues the department generates through programs and leases at the multipurpose center, estimated to be in the range of \$50,000 to \$75,000 per year, for an annual subsidy in the range of \$225,000 to \$250,000 per year. According to senior city management, the city is still figuring out the operating parameters for the multipurpose center in the former school buildings, and is in the process of having mechanical and electrical engineers go through the buildings with an eye toward optimizing operational and maintenance efficiency. While this facility has been a considerable cost to the city, the ability to utilize those buildings has been seen as a boon to the recreation department in achieving the goal it was given by the city of providing a range of programs and services considered central to quality of life by the residents of the community. City Recreation employment currently (2010) includes one full-time recreation director, five part-time monitors who work in the neighborhood of 3 hours per day, and one part-time person who does cleaning approximately 2 hours a day.

King Cove Clinic

The King Cove clinic, which moved to a new building in the Rams Creek area of the community in July 2002, 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 center⁹²) is now located in the tsunami safe zone (and all three are designated as evacuation centers and have back-up electrical generation capacity).

At the time of the crab rationalization 3-year program review (2008), clinic management staff reported that while no summary service statistics were available locally, demand for services did 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. During current (2010) interviews, clinic management staff confirmed that the pattern described for 2008 is still accurate for 2010 conditions, with one exception. While the January to March period is typically busy enough to be characterized as “bogged down,” in 2010 it was not. According to clinic staff, typically 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, which can be a challenge as the King Cove facility is not set up as a pharmacy clinic and, as a result, has a limited inventory of medications, especially medications for chronic conditions, on hand. 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.

⁹² As noted earlier, however, the city has more recently consolidated recreational and community center space into the multipurpose center in the old school building in the downtown area, such that there are plans in the works to convert this community center into housing, likely to help meet school- and clinic-related housing needs.

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 various injuries, mostly minor, associated with processing workers working very long shifts during high-volume processing times still occur).

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, in 2008, according to clinic management staff, BSAI crab seasons no longer created noticeable changes in the level of service demand at the clinic, a pattern confirmed in 2010. 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 (nor could they do so in 2010). 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 and again in 2010. A roadway/hovercraft combination link has become available in 2007 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, as related during interviews in 2008, 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, but this does not work under all circumstances and specifically cannot be used for heart patients. Alternatively, the U.S. Coast Guard can be called upon to airlift critical patients out of King Cove when no viable private sector (or public sector) alternative is feasible. In March 2010, two critically ill patients were airlifted from King Cove harbor by the Coast Guard in the same day.

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 most often 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.

At the time of the crab rationalization 3-year program review (2008), King Cove clinic staff included 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 were full-time. The clinic features the same level of staffing at present (2010), with the exception of a primary care technician, added in 2009, who checks patients in. Additional *locum tenens*⁹³ 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, *locum tenens* staff can also provide periodically needed case load relief. Another 10 support staff, all full-time except for 2, 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. Other than the 2009 addition of the primary care technician, the level of staffing at the clinic has been stable for several years, although there has been turnover of individuals during this time, especially as local staff are trained, advance in levels of responsibility when positions come open, and then their previous positions have been backfilled, creating greater local employment at higher skill levels, reportedly increasing employee retention in those job classifications. According to clinic management, a shortage of available housing in the community is having a negative impact on the ability to recruit and retain mid-level providers from outside of the community. The clinic is expecting to implement a new dental technician care program with two individuals to be assigned to the region currently in training facilitated by the Eastern Aleutian Tribes. This training, which has included a year in Anchorage and a year in Nome for its participants, is scheduled to conclude in December 2010. One of the individuals currently in training will be assigned to the King Cove clinic, while the other will be assigned to the clinic in Sand Point.

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. In general, programs funded or administered through the Eastern Aleutian Tribes are available to all residents of the community, both Native and non-Native, while programs run through the Alaska Native Medical Center or the Indian Health Service are normally specifically targeted for and available only to Alaska Native residents. If patients need advanced care or specialty services not available in King Cove, there are reportedly a number of needs-based grants available if these services are not otherwise

⁹³ Literally "place-holder," the term is used in medical and some other professional settings for a person who temporarily fulfills the duties of another.

covered by existing programs. Programs directed toward Alaska Native residents are typically provided free of charge to qualified patients, while other services at the clinic are available on a sliding scale basis, where fees are based on an ability to pay.

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 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 the time of the crab rationalization 3-year program review (2008) the department, in addition to the full-time director/police chief, was 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. This level of staffing was confirmed as still accurate in 2010.

According to the director of public safety when interviewed in 2008, 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, a view still held by the director in 2010.

Both the director of the department and the head of fire and rescue services reported during interviews in 2008, and confirmed again in 2010, 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, a set of circumstances that has continued through the rationalization period to date (2010).

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. Also during the November–December time period, a number of local residents leave town for the holidays, but this is offset at least to a degree by some former residents returning to visit relatives in the community for the holidays. According to department personnel in 2008, 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, but this has apparently evened out somewhat in the last couple of years, according to 2010 interviews, with spikes becoming less apparent. According to the director, the level of activity in the community is more closely aligned with the capacity of the department, such that the department can stay on top of issues when they arise.

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. During 2010 interviews, management personnel noted that it is relatively rare to have a month without an emergency medical service call, but it is easily possible to go a year without a major fire call. 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. In 2010, department leadership reported that there had been no major structural fires since 2007, with the exception of a single house that was gutted, and with no significant vessel fires during that time. 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) with calls increasing most typically during the summer months, 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 were characterized in 2008 as one call per month, but at present (2010) two calls a month are not unusual. No regular pattern is apparent as there are sometimes no calls in a given month, while there may be three or four calls in another month. Since the time of the crab rationalization 3-year program review, there have been a total of three cardiac calls, two of which ended in fatalities (aboard a vessel while fishing in one instance and a relatively elderly person recently arrived back in the community in the other), while the third, whose life was saved through use of an automatic external defibrillator device, recovered from the incident that occurred in the community. 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 2008 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 2005 following 3 years of declines. This upward trend continued into 2006. Data for 2007 are not available, but the total revenue for 2008 was the highest total for the years included in the table and is only exceeded with regard to 2006 constant dollars in 1999.

According to both the mayor and the city administrator, current (2010) City of King Cove employment in the community is essentially unchanged from that reported in 2008 and 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 5 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 at the time of the crab rationalization 3-year program review (2008), King Cove was “as strong and as healthy now as it has ever been,” and that relative municipal prosperity has continued to the present, according to 2010 interviews. This represents a substantial turnaround from conditions in the early 2000s when pre-crab rationalization baseline information 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, as of 2010, the city is no longer in a deficit position, and all funds including the electric fund (which was an exception in 2008) are in the black and there is approximately \$500,000 to \$600,000 in the city’s permanent fund. The permanent fund figure was reported to be approximately \$1 million in 2008, with the difference between the 2008 and 2010 figures being reportedly used for subsidies, including those of the recreation department and the harbor department. Water and sewer funds, though

Table 2.3-11. King Cove Municipal Revenues, 1999–2008

Revenue Source	1999	2000	2001	2002	2003	2004	2005	2006	2007*	2008
Local Operating Revenues										
Taxes	\$1,011,597	\$1,165,613	\$806,691	\$649,373	\$926,188	\$1,322,258	\$1,458,416	\$1,772,433	--	\$1,872,624
License/Permits	\$2,558	\$400	\$0	\$1,650	\$850	\$700	\$1,820	\$32,064	--	\$1,125
Service Charges	\$353,608	\$352,848	\$70,268	\$133,064	\$303,212	\$92,076	\$125,088	\$121,079	--	\$30,764
Enterprise	\$882,537	\$934,065	\$1,208,444	\$1,318,137	\$1,225,156	\$1,212,930	\$1,353,797	\$1,334,530	--	\$2,048,610
Other Local Revenue	\$73,020	\$124,881	\$130,987	\$180,680	\$34,079	\$76,914	\$15,939	\$53,040	--	\$60,847
<i>Total Local Operating Revenues</i>	<i>\$2,323,320</i>	<i>\$2,577,807</i>	<i>\$2,216,390</i>	<i>\$2,282,904</i>	<i>\$2,489,485</i>	<i>\$2,704,878</i>	<i>\$2,955,060</i>	<i>\$3,313,146</i>	<i>--</i>	<i>\$4,013,970</i>
Outside Operating Revenues										
Federal Operating	\$12,685	\$14,518	\$40,730	\$238,456	\$31,729	\$0	\$0	\$140,272	--	\$0
State Revenue Sharing	\$29,546	\$26,857	\$25,885	\$25,881	\$26,020	\$0	\$0	\$0	--	\$0
State Municipal Assistance	\$23,209	\$14,034	\$12,305	\$12,715	\$14,910	\$0	\$0	\$0	--	\$0
State Fish Tax Sharing	\$257,555	\$313,467	\$465,413	\$341,627	\$460,245	\$236,098	\$358,133	\$404,313	--	\$481,178
Other State Revenue	\$112,536	\$10,686	\$11,643	\$12,143	\$12,146	\$54,807	\$162,525	\$84,253	--	\$134,163
Other Intergovernmental	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	\$0
State/Federal Education Funds	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	--	\$0
<i>Total Outside Revenues</i>	<i>\$435,541</i>	<i>\$379,562</i>	<i>\$555,976</i>	<i>\$630,822</i>	<i>\$545,050</i>	<i>\$290,905</i>	<i>\$520,658</i>	<i>\$628,838</i>	<i>--</i>	<i>\$615,341</i>
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	--	\$4,629,311
Operating Revenue per Capita	\$3,993	\$4,407	\$3,500	\$3,670	\$4,117	\$4,143	\$4,807	\$4,884	--	\$6,172
State/Federal Capital Project Revenues	\$1,017,254	\$662,967	\$1,134,262	\$718,406	\$294,907	\$81,601	\$36,334	\$289,949	--	\$122,217
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	--	\$4,751,528
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	--	\$4,449,116

* Comparable King Cove summary data for 2007 were not compiled by the State.

Source: DCED personal communication, spreadsheet supplied July 2008; September 2010.

reported in 2008 as being behind expected performance according to city staff, were reported back on track as a result of automatic reapportionment.

According to the senior city staff in 2008, while the harbor fund was also “not the shining star it should be,” this situation was addressed through an increased focus on administration and collections (which proved challenging for delinquent accounts), as well as a 35 percent rate increase that took effect in January 2009. According to an interview with the city administrator in 2008, 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 was scheduled to be subsidized by \$150,000 in FY 2009. This level of subsidy, according to city leadership, was not unwarranted to help the harbor get on its feet over the course of a 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, in 2008 there was extra momentum to get harbor funding in order to qualify for a desired \$3 million in state funding to rebuild the old boat harbor. To do so, the harbor fund needed to be healthy and show that it essentially would be in a sustainable position that would allow locally financed rebuilding efforts on a 30-year cycle. According to 2010 interview data, harbor upgrade funding has been obtained, and the harbor fund is currently being subsidized at the rate of \$75,000 per year, with the general fund subsidy scheduled to end by FY 2015.

2.3.4.2 Fishery-Related City Revenues

Local taxes in King Cove consist of a 4 percent⁹⁴ 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 Department⁹⁵ at the time of the crab rationalization 3-year program review (2008), from FY 2002 to 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 in 2008, of the local sales tax totals, in a typical year roughly two-thirds derives from fish taxes, and one-third derives from general sales taxes, although the relative importance of fish taxes as a proportion of sales taxes has appeared to increase in subsequent years. In earlier years, the city characterized fish taxes as being split out approximately one-third from salmon (summer), one-third from crab (winter), and one-third from groundfish (throughout the year), but since FY 2002 or so, according to 2008 interviews, the typical annual proportion attributable to salmon had declined somewhat, while the proportion associated with groundfish (including halibut and sablefish as well as cod and pollock) had increased, although there continued to be variation on a year-to-year basis. Looking at the overall returns for the most recent 3 complete years that are now (2010) available (FY 2007, FY 2008, and FY 2009), rankings of the three groups of species have varied (e.g., groundfish was the most economically important of the three for 2 of the years, but the least important of the three groups for 1 of the years) as have absolute contributions (e.g., one group made a 50 percent greater revenue contribution 1 year than another group, but the rank order of those two groups was reversed another year in the 3-year series), so it is difficult to generalize, but clearly all three groups of species are fundamentally important to local revenues in each year. Because the community has only one processor, detailed

⁹⁴ King Cove increased its tax on general sales from 3 percent to 4 percent, effective May 2003.

⁹⁵ Finance Department spreadsheet, June 2008.

information on local fish taxes obtained from the community is not presented here due to confidentiality concerns.⁹⁶ 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. In 2010, it was confirmed that King Cove's financial base comes primarily from local and state fish taxes. As of 2010, around 70 percent of the city's general fund revenues comes from local taxes, fees, and services and approximately 60 percent of the city's annual general fund revenues comes directly from local and state fish taxes. Fish taxes in King Cove would appear to have not been affected by BSAI crab rationalization. According to the mayor in 2010, while the program has had a negative impact on the community in a number of ways, including local crew employment losses and loss of revenue for some local businesses, the processor quota component of the program, which he initially opposed, has proved to be good for the city.

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 was \$100,000 per year in 2008, the amount had dipped to \$75,000 per year in 2006 and 2007 after being set at \$100,000 per year at its inception. According to 2010 interviews with city officials, the flat rate remained at the \$100,000 per year level since 2008. 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, which has been paid off, according to city officials.

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 were reported in 2008 as resulting in approximately \$185,000 in revenue to the city per year on a steady basis for a 225-million-gallon service requirement, which is reported to still be the case in 2010, as a requested "true-up" that may adjust the figure

⁹⁶ 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.

somewhat remains to be performed. Since the time of the crab rationalization 3-year program review (2008), the city did put in a temporary contingency water line to Rams Creek working in conjunction with PPSF, with both parties contributing \$100,000 of funding, but the system has not been needed to date. As reported in 2008, 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, which has been unchanged since that time. (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. 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 in 2008 not been adjusted since PPSF reportedly purchased a truck with approximately three times the capacity of the old truck in or around 2006, which at the time was making trips to the landfill approximately weekly. More recently, however, the city increased the per-trip rate charged to adjust for the higher capacity truck and the resulting decreased frequency of trips to the landfill. In 2008, the city was reportedly 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, in order to 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 was 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 (2010), the project is still being worked on with the KCC preferring to minimize the amount of land needed to expand the landfill while maximizing the efficiency of the burn-box technology to address longer-term waste issues. The city, the Agdaagux Tribe, and the Belkofski Tribe have, according to city officials in 2010, jointly applied for \$680,000 in burn-box funding.

The city produces electrical power from both hydroelectric and diesel generators. The city operates the Delta Creek hydroelectric generating facility year-round, with the percentage of total community demand supplied by the facility varying by season. According to senior city staff, currently (2010), from April/May through October/November, this facility meets between 75 and 95 percent of the city's demand for electricity, while during other months of the year hydro generation from the facility meets between 15 and 50 percent of the community demand. Annually, this hydro facility produces about 2.5 megawatts, about the same as the city's total diesel-based electricity production. Reportedly, this 50/50 annual split between hydro and diesel has ranged from 55/45 (hydro to diesel) to 45/55 (hydro to diesel) over the period 2005–2010. When hydro first came on line (1995), a time when annual demand was an estimated 25 to 30 percent less than at present (before the new harbor, clinic, or school was constructed), and after the city had a year to gain experience in operating the facility, hydro was consistently meeting about 55 to 60 percent of the city's annual power demand and providing almost 100 percent of the total demand in the summer months. The hydro facility currently (2010) has an 800-kilowatt-hour capacity, which according to city engineers can be upgraded to help achieve a city goal of reaching a 60/40 split (hydro to diesel) with a 5.0-megawatt demand (hydro at 3.0 megawatts and diesel at 2.0 megawatts).

The city has recently (2008) completed a new conventional (diesel-fueled) power plant in the Rams Creek area near the new school building to replace its existing conventional plant. This

new plant fully came on line following the summer 2008 hydroelectric season. Waste heat from the new power plant is also being utilized to help heat the new nearby school facility. Between the new diesel-fired plant and the existing Delta Creek hydroelectric facility, the city currently (2010) has an annual “surplus” (more supply than demand at no additional cost) available for sale to other users (including PPSF), about 75 percent of which is available during the April/May through October/November timeframe. Additionally, the city has retained three diesel generators in its old power plant at the harbor that are now (2010) regularly run only a minimal amount to maintain their capability, but which are available if needed in an emergency. Existing constraints on the city’s electrical system include the unknown quality and expected remaining service period of a portion of the underground distribution system and an undersized transformer serving as the main connection between the new diesel plant and major residential neighborhoods that can only allow approximately 50 to 75 percent of this power to be distributed.

At present (2010), 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 (as was the case at the time of the crab rationalization 3-year program review [2008]). Currently (2010), PPSF is awaiting a proposal from the city to sell PPSF surplus hydroelectric power, which would be priced less than it would cost the plant to produce with their own diesel generators (but more than it costs the city to generate with its hydro facilities). This would provide the city with additional revenue for its electrical utility and reduce processor costs, which would be of material benefit to both parties (in addition to reducing the overall carbon footprint of total community-based activities and, at least from the perspective of the city, represent another step toward improving the socioeconomic relationship between the community and PPSF).⁹⁷

The city was reported in 2008 as seeking funding for a planned second hydroelectric power plant, which would be located in the Waterfall Creek area. Based on preliminary engineering completed to date (2010), this plant is expected to cost around \$4.0 million, which the city believes it can achieve through a combination of grants (\$3 million) and debt (\$1 million), which would equate to a positive cost/benefit ratio,⁹⁸ even without a power sales agreement with PPSF (although such an agreement reportedly would allow the city to keep overall cost per kilowatt hour relatively low compared to other single-site utility communities).

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

⁹⁷ Combination hydro/diesel generation sales from the city to PPSF are also possible in the future as (a) the city believes that it can produce diesel-based power more efficiently with its upgraded system than can PPSF and (b) because more winter seasonal diesel would also increase the city’s output of recoverable heat sales from the new diesel plant to the King Cove School (currently [2010] displacing about 25,000 to 30,000 gallons annually) and the city reportedly would like to extend recoverable heat to the new clinic (which reportedly could displace another 8,000 to 10,000 gallons annually for that facility).

⁹⁸ The 30,000 to 50,000 gallons of diesel that would be displaced by the new Waterfall Creek facility would have a value of about \$100,000 to \$150,000, or about twice the cost of debt service on \$1 million including an allowance for operation and maintenance costs.

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 [2010] utilized for marine fuel deliveries), and the “approach” or “wood” dock. (A new 10-ton crane was installed on the crane dock in March 2010.) 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 (2010) accommodated vessels up to the 150- to 160-foot range, and has a total of 43 slips, as it did in 2008. 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 2010, from two different sources. First, there are statistics kept by the Harbor Department itself, and these are currently available for FY 2004 through FY 2009 (complete) and FY 2010 (partial). The city Finance Department also keeps harbor revenue figures, and these are available for FY 2002 through FY 2010. As noted in the crab rationalization 3-year program review, however, 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 data⁹⁹ (when there appears to be a great deal of year-to-year 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.

Table 2.3-12. King Cove Harbor Fee Revenues, FY 2004–FY 2010 (partial)

Fiscal Year	Grand Total, Harbor Fee Revenues (1)	Total, Harbor and Port Revenues (2)
FY 2002	NA	\$252,750
FY 2003	NA	\$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	\$444,538.34	\$381,556
FY 2009	\$431,634.22	\$351,901
FY 2010	\$513,616.18	\$404,500 ⁽³⁾

(1) Harbor revenue spreadsheets provided by King Cove Harbormaster, May 2008, July 2008, and May 2010.

(2) Revenue and expenditure spreadsheets provided by King Cove Finance Department, June 2008 and August 2010.

(3) FY 2010 figure from the Finance Department is the “Final 1st Read” figure.

As noted in the crab rationalization 3-year program review, 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 have exceeded the total for the year 2 years prior to the implementation of rationalization (FY 2004), which remains the case at present (2010). Also as noted in the crab rationalization 3-year review, Finance Department data would indicate that harbor revenues from all post-rationalization years exceeded the revenue total from the year immediately prior to rationalization, which also remains the case at present (2010). 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.

Several factors make a pre- and post-crab rationalization comparison of revenues more complex than what otherwise may appear to be the case, especially for the most recent years. First, new harbor electric charges, which began to appear on Harbor Department revenue spreadsheets beginning in October 2007 (the fourth month of FY 2008), are responsible for a large portion of the jump in revenues seen between FY 2007 and FY 2008. The electric subtotals, including both Harbor Department and Finance Department data sources, ranged between approximately

⁹⁹ Data from the Harbor Department apparently do not exist in usable form prior to November 2002 (partway through the second quarter of FY 2003). The consistency and comparability of the existing data that do exist from FY 2003 are less than optimum as well.

\$108,000 and \$134,000 per year from FY 2008 to FY 2010.¹⁰⁰ Second, in January 2009 (halfway through FY 2009), harbor fee rates for virtually all services were increased by 35 percent, as shown in Table 2.3-13. Nevertheless, controlling for both of these factors, it would still appear that harbor revenues did increase in comparable terms from levels seen prior to crab rationalization following a 1- or 2-year post-rationalization decrease.

Table 2.3-13. King Cove Harbor Recent and Current Fees, 2010

Service	Previous Fee (Prior to January 2009)	Current Fee (Typically Increase of 35% over Previous Fee)
Fork Lift	\$50.00 per hour	\$67.50 per hour
Travel Lift	\$13.00 per foot	\$17.55 per foot
Lockers	\$528.00 per year	\$712.80 per year
Net Loft	\$5.00 per day	\$6.75 per day
Pots [transfer across dock each way]	\$1.50 per pot	\$2.00 per pot
Wharfage	\$4.00 per ton	\$5.40 per ton
Storage	\$0.10 per square foot	\$0.14 per square foot
Pot Storage	\$0.25 per pot per month	\$0.34 per pot per month
Moorage under 61 feet	\$0.80 per square foot	\$1.08 per square foot
Moorage over 61 feet	\$30.00 per foot	\$40.50 per foot

Source: Adapted from spreadsheet originally provided by King Cove Harbormaster, May 2008.

As noted in the crab rationalization 3-year program review, 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 for vessels over 61 feet apply (currently [2010] \$40.50 per foot). Crab (and cod) pots that move across city-owned docks in either direction are charged per one-way trip (currently [2010] \$2.00 per 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 to be stored on KCC property). Monthly pot storage fees on city-owned land are also applicable (currently [2010] \$0.34 per pot per month). Table 2.3-14 presents selected BSAI crab fishery-influenced King Cove harbor fee revenues for the period FY 2004 through FY 2010.

In terms of moorage, according to the King Cove Harbormaster in 2008, revenues from outside crab vessels are seen in both transient and quarterly moorage fees. As noted in the crab rationalization 3-year program review, 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. Revenues in this category have remained essentially flat for FY 2007 through FY 2009 before surpassing FY 2005/FY 2006 levels in FY 2010.

¹⁰⁰The New Harbor Electric line item on Harbor Department revenue sheets totaled \$133,788 for FY 2008, \$115,475 for FY 2009, and \$125,780 for FY 2010. Under the Electric tab of the Finance Department spreadsheet, Harbor Electric totals were \$107,893 for FY 2008, \$117,176 for FY 2009, and \$125,000 for FY 2010 (1st Reading). Further complicating matters is that New Harbor Electric totals on Harbor Department revenue sheets do not include the cost of electrical services to the Harbor Department. In FY 2010, Harbor royalties on electrical sales amounted to \$16,771; analogous figures for other years are not readily available.

**Table 2.3-14. Selected King Cove Harbor Revenues, FY 2004 through FY 2010
(Harbor Department Statistics)**

	Annual Moorage	Quarterly Moorage	Transient Moorage	Subtotal Quarterly + Transient Moorage	Subtotal All Moorage (annual + quarterly + transient)	Pots In/Out	Total Moorage and Pot In/Out Revenues
FY04	\$51,232	\$21,386	\$45,900	\$67,286	\$118,518	\$22,032	\$140,550
FY05	\$77,435	\$23,030	\$56,005	\$79,035	\$156,470	\$30,564	\$187,034
FY06	\$60,309	\$20,646	\$55,943	\$76,589	\$136,898	\$11,798	\$148,696
FY07	\$69,827	\$35,180	\$52,134	\$87,314	\$157,140	\$12,288	\$169,428
FY08	\$67,846	\$48,135	\$51,710	\$99,845	\$167,691	\$17,437	\$185,128
FY09	\$68,287	\$52,222	\$52,491	\$104,713	\$173,000	\$23,735	\$196,735
FY10	\$87,469	\$52,610	\$57,078	\$109,688	\$197,157	\$24,751	\$221,908

As noted in the crab rationalization 3-year program review, however, quarterly moorage totals alone, or combined quarterly with transient moorage totals 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. More recently, revenue in all moorage categories increased in FY 2009 and FY 2010. 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, as noted in the crab rationalization 3-year program review. 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 then-current 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. More recently, in both FY 2009 and FY 2010, pot transfer revenues surpassed those seen in FY 2004 (2 years before rationalization), but still remained below the FY 2005 levels (the year immediately before rationalization). It is important to note, however, that \$1.50 to \$2.00 per pot fee increase noted above that took place halfway through FY 2009 served to increase the overall pot transfer revenues seen in these most recent years.

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. As noted in the crab rationalization 3-year program review, however, these data 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 exceeded the moorage revenues of any of the pre-rationalization years shown. The same holds true for the 2 more recent years since the crab rationalization 3-year program review as well, but, as noted above, moorage revenues in FY 2009 and FY 2010 benefited from a 35 percent fee increase that took effect halfway through FY 2009.

Table 2.3-15. Selected King Cove Harbor Revenues, FY 2004 through FY 2010 (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	\$194,568	\$19,927	\$167,061	\$381,556
FY09	\$180,805	\$23,735	\$147,361	\$351,901
FY10**	\$185,000	\$25,000	\$194,500	\$404,500

* “Pot Storage” category in Finance Department data appears to be same as the “Pots In/Out” category in Harbor Department data.

** FY 2010 figures are “Final 1st Read” totals.

Source: Revenue and expenditure spreadsheets provided by King Cove Finance Department, June 2008 and August 2010.

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 2002 and FY 2003 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 somewhat higher than those seen in FY 2002 and FY 2003, but still well below FY 2004 and FY 2005 levels, as noted in the crab rationalization 3-year program review. More recently, annual pot revenues in FY 2009 and FY 2010 have moved closer to FY 2004 and FY 2005 immediate pre-rationalization levels but, despite benefitting from an increase from \$2.50 to \$3.00 per pot transfer halfway through FY 2009, still remain well below those peak year pot revenue levels. Again, however, it is important to note that this represents a relatively minor portion of overall harbor revenues (although the decline in pot movement is of major consequence to at least one local private sector business, as noted in the support service sector discussion).

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). As noted in the crab rationalization 3-year program review, however, 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.

Also as noted in the crab rationalization 3-year program review, 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 through December quarter, which would, in part, account for the very large gain seen in July through 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 five 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, two harbor improvement projects, a hydroelectric power system upgrade, and a high-speed cable project.

The first project involves the paving of city streets in the downtown area of King Cove as well as the main residential neighborhoods. Originally scheduled for the summer of 2008, the project as currently (2010) scheduled will extend into the 2010 construction season. This project is being undertaken as a combined effort of the City of King Cove and the Agdaagux Tribe, with the final phase that remains to be completed being funded at \$4.5 million. 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 scheduled for completion by October 2010. 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 from the city. As part of the funding for this project, the city also needed to demonstrate to the state that the King Cove harbor is being run in a financially solvent manner, which the previously discussed fee increase facilitated (although the use of some fish tax revenues to supplement harbor use fees on an ongoing basis was found to be acceptable and is still planned to continue through FY 2015). When completed, the small boat harbor will contain eighteen 60-foot slips, twenty-six 50-foot slips, seventeen 40-foot slips, and 900 feet of side-tie. While the senior city staff report that the harbor has come back from a number of adverse fishery-related developments, including BSAI crab rationalization, there is looming competition for some of the customers that the harbor now has in the form of new harbor projects being undertaken in Unalaska/Dutch Harbor and Akutan.

The third project is a harbor area upgrade that will involve completion of 3 acres of waterfront land to lease for storage and transshipment purposes. This new spit land is composed of fill that came from earlier city dredging efforts in Babe Newman Harbor and some in-kind fill materials (from a private interest in exchange for excavation). This project, likely to be approximately \$300,000, would help the city with its self-described "land poor" situation with respect to waterfront harbor lands. While the highest/best use of the land remains to be determined, it is likely to be more than crab pot storage/revenue, as the city has reportedly received a number of inquiries from marine shippers and others doing business in western and/or northern Alaska who view King Cove as a potential forward supply or transshipment base, given its location and the year-round accessibility of the harbor.

The fourth project is a hydroelectric system upgrade that the city would like to start in the Waterfall Creek area in the near future. The city (and its local partners, including the Agdaagux Tribe) is in the process of locating and securing funding for this project and, as described above, feasibility studies are taking place at present (2010).

The fifth project is a regional high-speed cable project, the Northern Fiber Optic Link System, that would have a relatively small presence in King Cove. According to senior city staff, King Cove has a Memorandum of Understanding with the Kodiak-Kenai Cable Company to be a part of a 5,700-kilometer, high-speed fiber-optic cable system connecting western Alaska to the main backbone telecommunications infrastructure for the rest of the United States. King Cove has reportedly been designated as one of the submarine fiber-optic cable landing points for a system that would ultimately connect Kodiak, Unalaska/Dutch Harbor, Bristol Bay, Bethel, Nome, Kotzebue, Barrow, and Prudhoe Bay. The city's planning commission has recently (April 2010) approved a request for a building permit to place a small structure to house the local electronics for the system and associated construction activities would include a beach landing of the submarine cable in the community.

Other projects are also on the horizon. The city remains 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 (2010), 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 a 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.

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 the crab rationalization 3-year program review (2008), the hovercraft was not offering scheduled service, but was available for emergencies, such as medivacs, and chartering for school functions and special events. At present (2010), the hovercraft is running a limited service schedule on Tuesdays, Thursdays, and Sundays, weather permitting, plus charters, primarily due to higher-than-anticipated operating costs. Reportedly, repeated charters have been run in the past by PPSF during peak periods of moving employees into and out of the community, especially when those periods coincide with adverse weather conditions for flying and movement of workers gets backed up. In 2008, it was reported that the hovercraft had a six-person, normally full-time crew operating and maintaining the hovercraft, including the captain, and that the crew was 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. As of 2010, city officials report that the mechanic is now on contract and comes to the community on an intermittent basis, and the crew is otherwise composed of four local residents, including the captain, who is a different person than the individual who was the captain in 2008.

The 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 ultimately completing an all-road link between King Cove and Cold Bay. The primary impediment to this link-up is a portion of the land between the existing road termini (including a section of the road that extends approximately 5 miles past the current [2010] hovercraft ramp on the King Cove side of the road) that is a part of the Izembek National Wildlife Refuge and includes a designated wilderness area. While there are more immediate plans to extend the King Cove side road terminus from its existing location in Lenard Harbor to an existing hovercraft ramp area near the edge of the wildlife refuge (locally known as the “northeast corner” [of Cold Bay]), and of the total of \$21 million required to do so, \$14 million is already in the state budget and the AEB has lined up the

remaining \$7 million, there are engineering challenges in doing so.¹⁰¹ Despite these challenges, community leaders are optimistic that the roadway segment to the northeast corner can be completed by the summer of 2011. For the full roadway link between the two communities to come to fruition, however, 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 principle 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.¹⁰²

In either its current configuration, an extended configuration to the northeast corner, 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 of limited utility because of its own weather (primarily wind) and sea conditions-related limitations. A surface transportation link to the Cold Bay airport, one of the state's major airport facilities and far less subject to closure due to adverse weather conditions, would provide a much more reliable means of getting vessel crews in and out of the community (maximizing the utility of the newly constructed harbor) as well as processing crews, and it could also potentially provide a viable avenue for the transportation of fresh product from the community (but this may be limited in actuality by project impact mitigation measures that could restrict such commerce). Further, local sources report that public safety would be improved through a greater ability to access timely medical evacuation flights.

At the time of the crab rationalization 3-year program review (2008), the AEB was 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 at the time, 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 (in 2008), 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. According to senior city staff in 2010, however, there have been no more recent discussions (of which they are aware) with Alaska Airlines on this topic. Since the earlier program review, the

¹⁰¹ Although extending the road to the northeast corner would allow for a shorter and more sheltered hovercraft run than is currently the case (which would decrease the vulnerability of the hovercraft to weather and sea condition-related service interruptions) there are concerns on the part of city staff that the increased drive time from King Cove to the northeast corner could in and of itself decrease hovercraft ridership demand.

¹⁰² While enjoying widespread support in Cold Bay and at the AEB level, the road link project was publicly opposed by the municipal administration in Cold Bay on reports televised statewide in May 2008 during the crab rationalization 3-year program review. 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.

AEB built a new terminal (2009) in Cold Bay that would substantially increase capacity over the small terminal used by PenAir, but, according to city staff, this new terminal has a number of problems, is not open, has no taxiway or apron connecting it to the airport and, without new terminal facilities, no new carriers, including Alaska Airlines, are likely to serve Cold Bay on a regular basis.

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 Kodiak itself,¹⁰³ 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 degrees Fahrenheit (°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, canneries¹⁰⁴ 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

¹⁰³ Precise federal ownership/management of tidelands in and around Kodiak is matter of contention. This includes lands currently utilized for seafood processing.

¹⁰⁴ 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 local 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 local 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 Alaska Commercial Fisheries Entry Commission (CFEC), Kodiak was home port to 452 commercial fishing vessels in 2009, making it one of the state’s largest fishing ports as measured by vessel owner residency (CFEC 2010).¹⁰⁵ 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

¹⁰⁵ According to the CFEC, only Sitka (including Katlian and Mount Edgecumbe), Petersburg, and Homer have larger fleets based on vessel owner residency, with 607, 538, and 480 vessels, respectively. In terms of overall activity, approximately 1,700 vessels pass through Kodiak annually (KTVA.com 2009).

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, according to the local Chamber of Commerce (2010). 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. According to interview data with Chamber of Commerce staff, the housing market, however, is currently (2010) tighter than it has been in the last few years with very few newly constructed homes, few homes for sale, and a scarcity of rental properties. This is due in part to additional USCG personnel living off-base since the decommissioning of some on-base housing in the recent past and greater overall interest in living off-base, as well as a lack of undeveloped land available for new home construction. 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 eighth largest community in the state in terms of population.¹⁰⁶ 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 USCG 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.

¹⁰⁶The seven largest communities in Alaska, in order, are Anchorage, Juneau, Fairbanks, Sitka, Ketchikan, Kenai, and Wasilla. There are three different basic types of local governance in these communities: Anchorage, Juneau, and Sitka are unified Home Rule Municipalities (i.e., unified city/boroughs); Wasilla is a First Class City; and Fairbanks, Ketchikan, and Kenai, like Kodiak, are Home Rule Cities (Kodiak Chamber of Commerce 2010).

2.4.2.1 Total Population

Table 2.4-1 provides information on Kodiak’s total population by decade since 1880. 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 people living in the area of, but outside of the city limits of, Kodiak (Linda Freed, personal communication 2001¹⁰⁷). 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. As of 2000, an additional 1,840 people lived on the USCG base, which most people also considered 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

¹⁰⁷ Freed, Linda, Director of Community Development, Kodiak Island Borough, June 2001.

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 2004 and 2009 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.

Table 2.4-2. Kodiak Island Borough Population Estimates, 2004 and 2009

Community or Area	Estimated Population 2004	Estimated Population 2009
City of Kodiak	6,210	6,626
Akhiok	57	51
Aleneva	44	67
Chiniak	50	48
Larsen Bay	96	79
Old Harbor	198	193
Ouzinkie	187	170
Port Lions	240	200
Karluk	32	38
Womens Bay	689	740
USCG Base	1,764	1,321
Other Areas	4,006	4,327
Total Borough	13,573	13,860

Source: Alaska Department of Labor and Workforce Development 2010.

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

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 Hawaiian 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 Hawaiian 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.

“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).

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).

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.)

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.

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 2010. Other borough schools are found in six operational rural areas (Akhiok, Larsen Bay, Port Lions, Ouzinkie, Old Harbor, and Karluk¹⁰⁸) and one logging camp (Danger Bay). Big Sandy Lake, another logging camp school, closed in spring of 2006 and has not reopened. 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, 2.4-9b, and 2.4-9c provide information on school enrollments by student ethnicity for the 2002–2003, 2007–2008, and 2009–2010 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, and Black/African American, remained proportionately about the same, with the proportion of multiethnic students experiencing a small increase. 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

¹⁰⁸ There have been recent changes in school locations based on shifting demographic patterns: the school in Karluk opened for the 2009–2010 school year; the school at Chiniak closed in the 2009–2010 school year and reopened for the 2010–2011 school year.

Table 2.4-8. Kodiak Town School Student Enrollments, by School Year, 1997–1998 through 2009–2010

School	1997–1998	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003	2003–2004	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009	2009–2010
East Elementary	429	432	467	467	451	463	449	341	332	320	340	330	317
Main Elementary	267	258	253	257	262	264	277	291	264	269	261	266	259
North Star Elementary	266	272	313	325	327	297	262	298	328	308	327	212	216
Peterson Elementary	358	328	381	334	299	273	252	301	317	323	306	255	230
Kodiak Middle School	435	408	357	369	425	413	416	377	369	348	363	483	534
Kodiak High School	672	703	689	736	766	785	785	830	839	819	785	797	783
Total	2,427	2,401	2,460	2,488	2,530	2,495	2,441	2,438	2,449	2,387	2,382	2,343	2,339

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.

Table 2.4-9c. Ethnic Enrollment by School, Kodiak Town Schools, 2009–2010 School Year

School	Alaska Native	American Indian	Asian & Hawaiian/Pacific Islander	Black/African American	Caucasian	Hispanic	Multi-Ethnic	Total
East Elementary	86	0	66	0	132	26	7	317
Main Elementary	12	1	173	2	37	27	7	259
North Star Elementary	57	4	36	4	99	12	4	216
Peterson Elementary	7	3	4	5	190	9	12	230
Kodiak Middle School	86	1	164	6	217	47	13	534
Kodiak High School	113	9	218	1	358	70	14	783
Total Enrollment	361	18	661	18	1,033	191	57	2,339
Percent of Total Enrollment	15.43%	0.77%	28.26%	0.77%	44.16%	8.17%	2.44%	100.0%

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 2009 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 2010.

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 in these data. For example Asian and Hawaiian/Pacific Islander children make up almost 67 percent of the student population of Main Elementary, but only about 21 and 17 percent of either East or North Star Elementary, respectively, and roughly 31 and 28 percent of the student populations, respectively, of both Kodiak Middle School and Kodiak High School.

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 and support to children of families that fish for long periods of time off-site (e.g., commercial set-netters), to children living with parents in logging camps, and to children of agricultural workers. To become eligible for the program, children must accompany their family to the fishing/logging/agricultural work location at least 20 miles from their home for a duration of at least 8 contiguous days. Upon fulfilling this requirement, children are eligible for the program for 3 years and receive educational materials, free (or reduced-price) lunches, swimming lessons, and first aid instruction. This program has little impact in the city of Kodiak itself, however, as processing plant employees are rarely included in this program and, as most fishermen in Kodiak do not travel with their children, rarely are fishing families in Kodiak the beneficiaries of this program, although the vast majority of students in this program from other communities in the KIB are from fishing families.

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 (up to 3 months), disrupting their education and missing key instructional time during the middle of the school year. This is a pattern that has been seen for a number of years. As reported at the time of the crab rationalization 3-year program review (2008), 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, although according to current (2010) interview information this has not affected the rate of students accompanying the parent. 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 to have to reenroll upon returning to the community at the risk of being held back.

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 reportedly much 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 has historically been higher than in places such as Anchorage, Juneau, and the Matanuska-Susitna Borough (AHFC 2001) before the current (2010) rental scarcity reported by Kodiak Chamber of Commerce staff. Construction of new housing to meet the local demand has continued through the present, although it may have slowed somewhat in the recent past due to a scarcity of available land zoned for residential construction, and contractors are reportedly building few or no new houses. 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 1 full percentage point for housing outside of the city of Kodiak.¹⁰⁹

¹⁰⁹ 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.

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, workforces 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 1,300 people. The base is reported to have been built in the 1930s as a temporary facility and so had a large supply of substandard housing. Much of this has since been dismantled, with a substantial but not equivalent amount of new and better housing 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 Households	Average Persons per Household	Median Household Income	Family Households	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). In 2006, 5 of the top 10 local employers were seafood processors, with a total of 8 seafood processors within the top 20 (Table 2.4.-14b). As of 2008, again excluding the USCG, 5 of the top 10 local employers were seafood processors and 4 more local seafood processors were in the top 20 (Table 2.4-14c). This latest list includes a processor operating out of Larsen Bay (Icicle Seafoods), as well as a catcher/processor entity historically referred to as Seafreeze Alaska, which is now part of United States Seafoods, LLC. 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 to 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, St. Paul, 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 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.

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	Walmart 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 (nonseasonal) 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	Walmart 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.

Table 2.4-14c. Top 20 Kodiak Employers, 2008

Rank	Employer*	Employment**
1	Kodiak Island Borough School District	474
2	Trident Seafoods Corporation	250–499
2	International Seafoods of Alaska	100–249
2	Providence Hospital	100–249
2	North Pacific Seafoods (Alaska Pacific Seafoods)	100–249
2	Ocean Beauty Seafoods	100–249
2	United States Seafoods	100–249
3	City of Kodiak	157
4	Walmart Associates	100–249
4	Safeway, Inc.	100–249
5	Department of Transportation	118
6	Kodiak Area Native Association	50–99
7	Global Seafoods North America	50–99
8	Coast Guard Exchange System Walmart	74
9	Kodiak Support Service Joint Venture	50–99
10	Alaska Department of Fish & Game	71
11	University of Alaska	70
12	Ocean Beauty Seafoods (Alitak)	50–99
13	Island Fish Company	50–99
13	Icicle Seafoods	50–99
13	Brechan Enterprises, Inc.	50–99
13	Evergreen Timber LP	50–99

* USCG and commercial fishermen are not included in this table.

Source: Kodiak Chamber of Commerce, “Kodiak Community Profile and Economic Indicators,” 1st Quarter 2010 revision.

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 has historically been 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 2.4-16 displays the total volume of fish landed at Kodiak for 1984 through 2008. 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 2008 similar to those seen in 2000 (in terms of absolute dollars, not inflation adjusted dollars). Among U.S. ports over the most recent 5 years shown (2004–2008) 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 2.4-15. Kodiak Fisherman’s Calendar, 2010

January 1	Cod “A” season in GOA and BSAI for fixed gear opens
January 1	Black rockfish — jig in Kodiak, Chignik, and South Peninsula
January 15	Kodiak, South Peninsula, and Chignik Tanner crab season opens
January 15	Eastern Aleutian District 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 in Gulf of Alaska and BSAI opens
January 20	Flatfish trawl gear in Gulf of Alaska opens
February 15	Westward region scallop fishery from previous year closed
March 1	Chignik state-waters Pacific cod opens
March 10	Pollock “B” season opens
TBA	South Peninsula state-waters Pacific cod fishery opens 7 days after the Western GOA federal fishery closes
TBA	Kodiak state-waters Pacific cod fishery opens 7 days after the Central GOA federal fishery closes
TBA	Aleutian Islands District Pacific cod fishery opens 4 days after BSAI trawl fishery closes
March-TBA	Halibut and sablefish IFQ fisheries opens (closes mid-November)
March 31	State Tanner crab fisheries closed
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
May 15	Aleutian Islands and South Peninsula state managed sablefish opens
June 1	Tentative date Kodiak salmon season opening (closes October 31)
June 15	Dungeness crab for Kodiak south end opens
July 1	State-managed lingcod opens
July 1	Westward region scallop fishery opens
August 25	Pollock “C” season opens
September 1	Cod “B” season in central and western Gulf of Alaska opens for trawl and fixed gear
Autumn – TBA	State cod reopens if quota remains and Federal “B” season closes
October 1	Westward region sea cucumber opens
October 15	Bristol Bay red king crab opens
October 15	Bering Sea Tanner and snow crab opens
November – TBA	Halibut and sablefish IFQ closes
November 15	Aleutian Island and western Southern Peninsula state-managed sablefish closed
December 31	State-managed cod and rockfish fishery closed
December 31	State-managed lingcod fishery closed
December 31	State-managed Tanner crab fisheries closed
January 1	Dungeness fishery closed

Note: All dates are subject to change pending fisheries management regulations.

Source: Adapted from Alaska Department of Fish and Game information.

Table 2.4-16. Volume and Value of Fish Landed at Kodiak, 1984–2008

Year	Volume		Value		Average Value (\$/lb)*
	Millions of Pounds	U.S. Ranking	Millions of Dollars	U.S. Ranking	
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
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
2007	320.0	4	126.0	3	0.39
2008	250.9	5	98.7	3	0.39

*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, 5/27/08, and 5/17/10.

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	Percent of Total Volume	Ex-vessel Value (dollars)	Percent 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%
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 (see next table) 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. Clearly, the value of landings in Kodiak is dominated by salmon (30 percent), and Pacific cod (19 percent), pollock (13 percent), and 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	Percent of Total Volume	Ex-vessel Value (dollars)	Percent 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%
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, thornyhead, 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 2008 (from Alaska Department of Fish and Game).

Table 2.4-17c lists detailed information on total volume and value of fish landings for Kodiak for 2008 by species or species group. These data represent the most recent full-year data available. In contrast to 2006, the value of landings in Kodiak are highest for halibut (25 percent), Pacific cod (23 percent), salmon (21 percent), and pollock (9 percent), which together accounted for approximately 78 percent of the total value of all species landed. Sablefish accounted for about 7 percent of the total, while all species of crab combined accounted for a little over 5 percent of the total, and flatfish accounted for about 4 percent of the total. As was the case in 2006, no other species or species complex accounted for more than 2 percent of the total but, as shown, a few other groundfish species were relatively high-volume species locally. These species accounted for a relatively small proportion of the total value landed, however, due to relatively low values per pound.

Table 2.4-17c. Volume and Value of Fish Landed at Port of Kodiak, by Species, 2008

Species	Volume Landed (pounds) ¹	Percnet of Total Volume	Ex-vessel Value (dollars)	Percent of Total Value
salmon, Chinook	139,399	0.05%	\$144,980	0.10%
salmon, sockeye	10,092,001	3.40%	\$11,756,505	7.88%
salmon, coho	2,489,356	0.84%	\$2,949,722	1.98%
salmon, pink	35,833,656	12.08%	\$12,577,959	8.43%
salmon, chum	7,660,294	2.58%	\$3,742,460	2.51%
halibut, Pacific ²	8,802,235	2.97%	\$37,360,248	25.05%
herring, Pacific	6,601,857	2.23%	\$2,063,397	1.38%
cod, Pacific (gray)	60,352,347	20.35%	\$34,400,838	23.07%
pollock, walleye	74,601,582	25.15%	\$12,682,269	8.50%
arrowtooth flounder	38,296,712	12.91%	\$2,680,770	1.80%
black rockfish	239,103	0.08%	\$62,167	0.04%
octopus	339,695	0.11%	\$230,993	0.15%
perch, Pacific ocean	10,993,877	3.71%	\$1,759,020	1.18%
squid	201,112	0.07%	\$10,056	0.01%
sablefish (black cod)	2,475,359	0.83%	\$10,223,233	6.85%
lingcod	534,014	0.18%	\$331,089	0.22%
skates	3,583,476	1.21%	\$1,505,060	1.01%
rockfish ³	3,835,037	1.29%	\$797,141	0.53%
flatfish ⁴	26,784,091	9.03%	\$5,847,325	3.92%
crab ⁵	2,753,837	0.93%	\$8,012,127	5.37%
Total	296,609,040	100.00%	\$149,137,359	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, thornyhead, 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 2010 (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) 2009 was estimated at \$31.9 million, up from an estimated \$22.6 million in FY 2006 (Kodiak Island Convention and Visitors Bureau, cited in Kodiak Chamber of Commerce 2010). These visitors include a substantial number of cruise ship passengers, the total number of whom has increased since 2005, when seven ships visited the community, to a projected 21 ships in 2010. These cruise ships typically carry between 110 and 1,380 passengers.

In FY 2009, the combined City of Kodiak's and the KIB's room taxes equaled \$255,371, up from the \$180,542 figure for FY 2006 as cited in the crab rationalization program 3-year review. 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. Timber severance taxes rebounded slightly in 2006 to \$62,740, but have since dropped substantially in 2009 to \$5,872. Construction has reportedly been a major driver of the Kodiak economy in the last several years, with a number of new facilities built since the time of the crab rationalization 3-year program review (2008), including a new pool facility, new police station, a new convention center, a new Afognak Native Corporation building, a new boat lift facility, and three large wind turbines, among others. Finally, 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 2008 the state estimated the KIB's average monthly employment to be 5,803, 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 5.4 percent to 13.1 percent, due primarily to seasonal fishing employment fluctuations, with an average annual unemployment rate of 7.3 percent for the KIB as a whole in 2008 (Kodiak Chamber of Commerce 2010).

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.

Two Kodiak-based organizations that historically have promoted fisheries marketing are the United Salmon Association (USA), which is now relatively dormant in the community, and the United Fishermen's Marketing Association (UFMA). USA is an organization of salmon fishermen concerned with issues of pricing, product quality, and long-term economic viability of the fishery and, like a number of other industry organizations, goes through periods of activity and inactivity, based on the economic, regulatory, legislative, and political factors of concern to its constituents. The association, as a whole, worked toward creating organic labeling standards for wild salmon, obtained funding to provide the labeling to American seafood producers, and tracked 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, 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 USA is relatively inactive at present, the results of this successful campaign are reportedly still seen in Kodiak. When active, its headquarters has been based in Kodiak, but USA's membership has historically included salmon fishermen in Kodiak, Prince William Sound, and southeast and western Alaska.

UFMA is a multilayered trade association that represents its members before state and federal regulatory, legislative, and governmental entities. Its advocacy positions are directed toward investments in the marketing and promotion of Alaska seafood as well as sustainable fisheries and habitat protection. UFMA also supports basic and applied scientific and socioeconomic research related to fishery conservation and management measures, and economic factors that impact Alaska harvesters, processors, and fishery-dependent businesses and coastal

communities. UFMA began in the 1930s; was reorganized as a Fishermen's Cooperative Marketing Act cooperative in the late 1950s; and prior to 1982 negotiated salmon, king crab, and tanner crab prices on behalf of harvesters. UFMA's membership includes small and large vessels, salmon fishermen, Bering Sea and Gulf of Alaska crab vessels, halibut and sablefish longliners, and pot cod fishermen. While it does not represent processors, UFMA works closely with both shoreplant and at-sea processors on issues of mutual interest. UFMA is one of the founders and serves on the steering committee, of the Alaska King Crab Research, Rehabilitation and Biology Program (AKCRRAB), a coalition of fishermen, coastal communities, NOAA Fisheries, the Alutiiq Pride Shellfish Hatchery, Chugach Regional Resources Commission, and the Alaska Sea Grant College Program. AKCRRAB's goal and mission include conducting research on hatching and rearing wild red and blue king crabs in a large-scale hatchery setting for the purpose of rehabilitating depressed king crab populations throughout Alaska.

While not specifically Kodiak-based, the Gulf of Alaska Coastal Communities Coalition is another entity active in fisheries issues in Kodiak (as well as other communities in the Gulf of Alaska). With one of its main stated goals being protecting existing fisheries access to small Gulf of Alaska coastal communities, the coalition has been active in providing testimony to regulators and management entities on the BSAI crab rationalization program encompassing several themes: supporting the positions of AEB and Kodiak communities; concerns over the strength of processor linkages in the program; and, the potentially precedent-setting nature of the program that would facilitate implementation of similar management programs or management plan features in the Gulf of Alaska.

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. In 2008, the organization had 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 in 2008, 65 percent were Alaska vessel owners, while 30 percent were Washington or Oregon based. According to AWTA leadership, at least 75 percent of the member vessels had crew members that are Alaska based. As of 2008, AWTA staff had been active on the NPFMC Advisory Panel for over 20 years, and continues to lobby the NPFMC 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. Three other Kodiak-based organizations that may be seen as part of this category are the Kodiak Seiners Association, Alitak Bay Set Net Association, and the Kodiak Set Net Association, although the Kodiak Seiners Association has reportedly been less active in recent years.

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 in Kodiak, Homer, Seattle, and other communities; the Old Harbor Fishermen’s Association, representing small communities and their interest in obtaining quota shares for communities outside the city of Kodiak; the Kodiak Fishermen’s Wives Association, a group supporting local fishermen; and the Crewman’s Association, a group representing crew members participating in crab, halibut, and sablefish fisheries.

The Crewman’s Association began in 2003 and is generally focused on creating a stakeholder role for crewmembers affected by rationalization programs, regardless of fishery. In 2010, according to association leadership, the membership was between 300 and 400 crewmen and skippers generally from Kodiak and communities in the southeastern part of the state, as well as Seattle. This figure is down from a reported high of approximately 700 just a few years ago. Ultimately, the Crewman’s Association is interested in forming a co-op that can amass quota and link a certain percentage to working crewmembers.

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 5-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 the Alaska Department of Fish and Game (ADFG). Table 2.4-19 provides estimates of crew members for Kodiak for the years 2000 through 2009.

Table 2.4-19. Estimated Number of Permit Holders and Crew Members from Kodiak 2000–2009

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
2007	574	725	1,299
2008	558	715	1,273
2009	531	730	1,261

Note: Includes Chiniak.

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

Community Harvester Characterization

Overview

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 local 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 local 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.

Crab Vessels

According to the BSAI crab fishery 1998–2010 dataset, in the years leading up to the implementation of BSAI crab rationalization, an annual average of 34.0 and 26.9 vessels owned by Kodiak residents participated in the Bristol Bay red king crab and Bering Sea snow crab fisheries, respectively. In the 5 years post-rationalization for which data are available, these annual averages dropped to 10.4 for the Bristol Bay red king crab fishery and 9.6 for the Bering Sea snow crab fishery, decreases of 69 percent and 64 percent, respectively. In absolute numbers, there were fewer Kodiak-owned vessels in both fisheries in the fifth year of rationalization (2009/2010) than there were in the first year (2005/2006). (Bristol Bay red king crab Kodiak-owned vessels dropped from 13 to 9 and Bering Sea snow crab vessels dropped from 10 to 9.) Post-rationalization, on average, Kodiak accounted for more than half of all Alaska-owned vessels participating in the Bristol Bay red king crab fishery and for more than half of all Alaska-

owned vessels participating in the Bering Sea snow crab fishery, as was the case pre-rationalization.

Compared to vessels owned by residents of other communities (both Alaska and non-Alaska), the annual average percentage of the total harvest attributed to Kodiak vessels stayed about the same for the Bristol Bay red king crab fishery (at an average 12.2 percent of total annual harvest both pre- and post-rationalization), but declined slightly for Bering Sea snow crab (from 13.0 percent to 12.2 percent of total average annual harvest pre- and post-rationalization, respectively).

Kodiak vessel owners were the only Alaska vessel owners outside of Anchorage to have harvested EAI golden king crab and WAI golden king crab in the years prior to rationalization that are covered by the BSAI crab fishery 1998–2010 dataset, although none have participated in these fisheries in the 5 years post-rationalization. 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 1998–2010 dataset, one Kodiak-owned vessel participated in the Bering Tanner East fishery in the 2009/2010 season (out of three vessels participating from all of Alaska) and four Kodiak-owned vessels participated in the Bering Tanner West fisheries in the 2009/2010 season (out of seven vessels participating from all of Alaska).

Of the 55 unique vessels with ownership attributed to Kodiak residents that show up in the 1998–2010 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, 24 of those vessels are shown in the database as still under Kodiak ownership and remaining active in 2009 (the most recent year for which data are available) in commercial fishing. These vessels presumably continue to generate at least some level of economic benefit to the community, even if half of these vessels did not participate in the rationalized crab fisheries in 2009.¹¹⁰

Crab Catcher Vessel Owner Quota Allocations

In terms of initial quota allocations, the unique numbers of Kodiak residents receiving catcher vessel owner allocations in each of the fisheries are as follows: 20 for Bristol Bay red king crab, 19 for Bering Sea snow crab, 1 for EAI golden king crab, 2 for WAI golden king crab, 21 each for Bering Tanner East and Bering Tanner West, 12 for St. Matthew blue king crab, and 3 for WAI red king crab. Among open fisheries, with the exception of the EAI golden king crab and WAI golden king crab fisheries, which remained the same in terms of number of unique quota holders and the number of quota units held, in the 2010/2011 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 2010/2011 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 20 to 31 in the Bristol Bay red king crab fishery; from 19 to 30 in the Bering Sea snow crab fishery; from 21 to 28 in the Bering Tanner East fishery; from 21 to 29 in the Bering Tanner West fishery; and from 12 to 19 in the St. Matthew blue king crab

¹¹⁰ See Section 1.5 for additional discussion of former crab vessel activity in other fisheries.

fishery. Comparing 2010/2011 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 8.5 to 10.0 percent of the Bristol Bay red king crab fishery; from 8.8 percent to 10.4 percent of the Bering Sea snow crab fishery; from 10.9 percent to 12.5 percent of the Bering Tanner East fishery; and from 10.9 percent to 12.5 percent of the Bering Tanner West fishery.

Among the BSAI crab fisheries that are currently not open, eight Kodiak vessel owners qualified for initial allocations in the Pribilof blue and red king crab fishery. Between the initial allocation and the 2010/2011 season IFQ allocation process, the number of Kodiak unique quota holders increased to 12, while the percentage of total quota units held declined from 6.0 to 4.0 percent of total quota units held. Because these fisheries are closed, however, no present impacts have occurred.

Crab Catcher Vessel Crew Quota Allocations

In terms of catcher vessel crew initial quota allocations, the unique number of Kodiak residents receiving allocations in each of the fisheries is as follows: 20 for Bristol Bay red king crab, 17 for Bering Sea snow crab, 20 for Bering Tanner East, 20 for Bering Tanner West, and 12 for St. Matthew blue king crab. While the number of unique quota holders and percentage of quota units held by Kodiak residents either increased or stayed the same between initial allocation and 2010/2011 in the case of catcher vessel quota, a very different pattern is seen for catcher vessel crew quota.

Between the initial allocation and the 2010/2011 IFQ allocation, the number of unique individuals holding Bristol Bay red king crab quota decreased (from 20 to 15), but the proportion of catcher vessel crew quota units held increased (from 8.8 to 10.0 percent). For Bering Sea snow crab, the number of Kodiak catcher vessel crew quota holders declined (from 17 to 12) as did the percentage of total fishery catcher vessel crew quota held by community residents (from 10.4 to 8.3 percent). For the Bering Tanner East fishery, the number of Kodiak catcher vessel crew quota holders declined (from 20 to 16), as did the number of Bering Tanner West Kodiak catcher vessel crew quota holders; in both fisheries the percentage of total fishery catcher vessel crew quota held by Kodiak residents remained the same (11.6 percent), although the absolute number of share units held declined slightly. For the St. Matthew blue king crab fishery, the number of unique individuals holding catcher vessel crew quota remained the same (nine) and the proportion of catcher vessel crew quota units held increased (from 14.0 to 14.4 percent).

Among the BSAI crab fisheries that are currently not open, four Kodiak residents qualified for initial allocations of catcher vessel crews in the Pribilof blue and red king crab fishery. Between the initial allocation and the 2010/2011 season IFQ allocation process, the number of Kodiak unique quota holders remained the same and the percentage of total quota units held increased (from 7.6 to 9.5 percent). Because these fisheries are closed, however, no present impacts have occurred.

Two unique Kodiak residents also received initial allocations of catcher processor crew quota in the Bristol Bay red king crab fishery. As of 2010/2011, the number of quota holders and the number of quota shares held were unchanged from initial allocation figures.

Crab Crew Issues

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 one of 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 a number of reasons, including 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, a perceived decline in the ability to make a relatively high financial return per day of fishing effort invested away from the community, and an effective decrease in crew shares based on quota leasing practices within the fishery.¹¹¹

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 5-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

¹¹¹For more discussion of crew compensation issues, see Section 1.4.

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 by the time of crab rationalization 3-year review fieldwork in late 2004; others have changed hands in the interim as well. 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 (2010) 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 reported 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. This pattern has continued through the present (2010). 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 other 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 Alaska Fisheries 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 (2010) processing rationalized BSAI crab: Ocean Beauty Seafoods, APS, and AFS. These plants, and the impacts to the plants of BSAI crab rationalization, are characterized in this section.¹¹²

Ocean Beauty Seafoods

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.

¹¹² During the post-crab rationalization years, two other entities are shown in the crab database as having processing rationalized BSAI crab species in Kodiak. These entities (and the years of rationalized crab processing activity) are Pacific Dream, Inc. (2007) and King Crab Company, LLC (2008 and 2009). Little information is readily available on these entities. Neither would appear to have an ongoing physical presence in the community and neither name was recognized by a number of knowledgeable local industry representatives interviewed for this project. One potential source of confusion is the fact that one of the predecessor firms of present-day Ocean Beauty operations in the community was King Crab, Inc. According to Ocean Beauty management, however, they have no relationship to King Crab Company, LLC, an entity unknown to them.

Ocean Beauty maintains an ongoing and relatively steady relationship with the same fleet every year, with the current (2010) fleet reported to be very similar to the ones characterized in 2004 and again in 2008, 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 until sometime in the latter half of September, this plant processes salmon delivered from 25 seiners and 30 set gillnet sites, along with halibut, black cod, and herring. It also typically receives some incidental deliveries of state water cod when readying for the salmon season. 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 niche, 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 (the time of the 3-year review of crab rationalization) were not running any of their A share-linked Individual Processor Quota (IPQ) (and were barred from doing so) due to becoming designated as a vessel-affiliated entity after initial PQ issue and implementation of the program but before the 3-year review. 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 Kodiak Fisheries Development Association (KFDA), a joint entity of the KIB and the City of Kodiak,¹¹³ which currently (2010) 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 continue to 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

¹¹³The Kodiak Fisheries Development Association (KFDA) board consists of 7 members. Two are appointed by the City, 2 are appointed by the KIB, and 3 are appointed jointly. This community organization was formed as the crab rationalization program right of first refusal entity for obtaining processor quota that might otherwise exit the community. The KFDA issues annual requests for proposals for the processor quota that it has come to control through the forced functional divestiture of processor quota issued to Ocean Beauty.

seasons, setting back the normal processing schedule compared to previous years. For king crab, these type of late deliveries continue to be somewhat challenging for Ocean Beauty and other Kodiak processors trying to conclude processing in time to enter the lucrative Japanese holiday market around the same time of year. (Ocean Beauty did not run opilio in 2009.) 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 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 Ocean Beauty 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, even if this activity only represented perhaps 3 or 4 days of labor at the plant, a relatively modest amount of work when viewed from an annual round perspective. 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

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, production at present (2010) closely follows the pattern described in the crab rationalization program 3-year review (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 six to eight 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 changes brought about by BSAI crab rationalization, as noted below. 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 IFQs 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 largely shifted to Homer and the fishery is not as much of a “money maker” as it used to be, APS reports it still benefits by maintaining ongoing relationships with halibut 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, the APS plant qualified for what local management characterizes as “a sliver” of A shares—no Bristol Bay red king crab, some Pribilof king crab (although those fisheries are currently closed and have been during the entire rationalization period), and “a dab” of opilio. However, beginning with the 2007–2008 season, the plant has leased KFSA-controlled king crab quota each year in addition to B and C share crab it also purchased from the individual harvest quota holders. In most, but not all, years since it has become available, APS has also leased KFSA-controlled opilio quota to supplement its own A shares (and the B and C share crab it also purchases). 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 (as it is not economically feasible to deliver to Kodiak mid-season given the high transit costs between the community and the fishing grounds compared to costs in accessing processors in communities farther to the west. 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 relatively high fuel prices. Further, local plant management noted that there are also some inherent competitive marketing challenges with crab that is only available at the end of the season.

AFS

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 earlier (2004, 2008) AFS management interviews, it originally was a crab-only plant (running king, local Tanner, and Dungeness), owned in part by Bering Sea crabbers, and was reportedly the first plant in Kodiak to run opilio crab. According to previous interviews with AFS owners, 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 continued to evolve and at present (2010) the pattern follows that described in the 3-year crab rationalization review (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 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 2009–2010, 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 (2010) 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. (According to local management, AFS does not recruit these overseas workers, but will typically pick up 10 to 12 such workers in a given year who were originally brought to the community by opportunities at other processing operations.) 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 KFDA (the shares initially allocated to Ocean Beauty's Kodiak operation), 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. This reportedly has proven somewhat challenging for the plant at the end of the red king crab season when trying to meet a timely processing cut-off date to ensure adequate deliveries for the Japanese holiday season, a traditional market for the processor. At least in part, this has resulted in a decision to more actively target the domestic market this year (2010). AFS has continued to lease KFDA-controlled red king crab and opilio crab A shares each year since they have become available. However, this leasing process has also introduced a degree of uncertainty to crab processing at AFS, according to plant management, as it is currently dependent upon the KFDA-controlled A share lease arrangement, which is based on a yearly agreement, such that future processing is dependent on continuing to successfully reach annual agreements. AFS has successfully obtained crab delivered under B and C share quota allocations based, according to previous AFS management interviews, on 20+ years of good relationships with Bering Sea fishermen.

According to previous (2008) interviews, one of the owners of AFS who at present (2010) is no longer active in the management of the company on a day-to-day basis also has ownership interest in a separate 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 that accompanied fleet consolidation under rationalization, among other factors, 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 stated that BSAI rationalization itself has caused an approximately 30 percent drop in revenue for the business as of the time of the interview (2008).

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

Trident Seafoods currently (2010) processes pollock, rockfish, flatfish, halibut, and Pacific cod at its Kodiak facility and, in a change from the plant description provided in the 3-year crab rationalization review operations description, has recently begun to process salmon. Trident purchased salmon from other processing facilities in Kodiak in 2007, 2008, and 2009 at times when those plants exceeded their efficient functional capacity, but 2010 is the first year the plant will be purchasing its own salmon. In another change from operations in earlier times, Trident installed a crab line in the mid-2000s and has run Dungeness crab in the summer and local Tanner crab in the winter. 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 through 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 (which have a capacity of 75 individuals) 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

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 has typically been a combination of crab, herring, and halibut. In a change from the 2008 operations profile in the 3-year crab rationalization program review, however, Western currently (2010) does not process halibut, as it is considered too risky a venture given present high prices. 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 local 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 through 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 or less during November when flatfish are being run at the plant. From the latter part of November through the end of December, the plant is basically down except for maintenance, a period that starts earlier and lasts longer than was the case at the time the 3-year crab rationalization review description was compiled (2008). Workers at the plant are typically local residents, although the plant does supplement its local labor force with about 40 to 50 students, primarily from Turkey (and arranged through a third-party service) during the summer salmon season, although student workers have increasingly come from other eastern European/southwestern Asia countries as well in the last few years. 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; in a modest change over the past couple of years, domestically recruited workers also fill in during summer peaks but are not as common as in the winter peaks.

While there has been some turnover in the specific vessels involved since the time of the 2008 operations profile, Western's fleet still reportedly includes about 10 trawlers, 6 longliners, 3 to 4 pot cod boats, 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.

Island Seafoods

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, sablefish, 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 as well as a couple of trawlers, and there has been an increase in the deliveries from larger vessels at the plant in recent years. In an interview for the 2008 operation profile, plant management reported that overall tonnage through the plant has increased by perhaps 40 percent in the period 2004–2008. In 2010, plant management reported that tonnage has continued to grow each year since that period, and it is likely that the delivering fleet will increase by at least one trawl vessel in the near future. 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 two salmon vessels (an increase of one over what was reported in 2008).

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 by processing and shipping sport fish for the visitor trade. Island Seafoods also prepares corporate gift packs and sells its products via a website. Related ventures include operating as a Federal Express facility. Future plans call for increasing sales to the visitor/tourism market, and may include opening a small "fish and chips" style restaurant on-site. 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 come 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 (2010) maintains a core workforce of 60 full-time employees (an increase of 15 employees over the level reported in 2008, which itself was over twice the number reported in 2004) from January through November, with the workforce increasing to about 90 employees during peak salmon season from July through mid-September (about a one-third increase over the peak number reported in 2008, which itself was about a one-third increase over the 2004 reported number). 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; eight of nine 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

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 period of January through March, the local ISA workforce is composed of approximately 200 people, while in the busy period of June through July, the total workforce may be somewhat larger. This is in contrast to the 150 workers reported for both winter and summer peaks in 2008 but, according to plant management, changes in specific product demand can influence employment numbers in particular seasons. For example, in a recent year the plant produced pink salmon fillets, adding between 60 and 80 staff over the course of that production period. 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. During the quietest periods, when production is not occurring at the plant, approximately two dozen maintenance and dock workers are on-site. 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. At present (2010) the plant does not run any crab, nor have they done so since the early 1990s. ISA does not can any products in Kodiak, although the plant was originally designed to can approximately 50 percent of its output. Plant management reports that the product mix has changed in recent years due to market demands, including a greater demand for head and gut going mostly to China, while the overall demand for surimi has diminished as surimi production competition has increased supply. Fresh halibut has been produced in a number of recent years but is not a steady product for the plant. In 2008, the fleet associated with the plant was described as consisting 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. At present (2010) the fleet may have increased slightly due to favorable market conditions, but it is somewhat fluid based on economic demand. According to management interviews, the plant has capacity to accommodate a substantially larger fleet when and if it makes sense to do so. Some vessels that otherwise deliver to ISA also harvest Dungeness and local Tanner crab, which the plant does not take; for those vessels ISA has secured a market at the adjacent Western Alaska plant for crab deliveries. Reportedly, at least some of these vessels feel that it is important to keep fishing for local Tanner although it may not make immediate economic sense to do so, because they are “fishing for history” in anticipation of a potential rationalization of that fishery. According to senior staff, if ISA does make a move to begin crab processing, it would likely be to accommodate the desires of their local fleet and not because the plant feels that those are particularly lucrative markets at present. 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 direct impacts to their Kodiak operations resulting from crab rationalization, due to a lack of historic or current participation in BSAI crab processing. One indirect impact noted by senior management, however, is an alteration of the specific fishermen delivering to the plant as there are some jig cod fishermen now delivering who are former crab crew who have apparently been displaced from that fishery. According to plant staff, this same phenomena has been seen in the sea cucumber fishery, although ISA no longer processes sea cucumber (with APS now [2010] being the local market).

Global Seafoods

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 (2010), the Global management characterizes the Kodiak facility as primarily a groundfish and flatfish plant, but with an additional strong emphasis on salmon. The plant does not run halibut or crab. 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 and local manager of Global is also fluent in Russian.) In terms of an annual cycle, January through 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 and into June. Around June 15, cod deliveries will resume, starting a busy period that reaches a peak during July and August when salmon fisheries are in full swing, along with pollock and flatfish. During this time of year, production of other species will vary by the volume of salmon being processed, with Global characterized by management as small and agile enough to start and stop lines relatively efficiently for even small amounts of product as immediate needs dictate throughout the year. September and October are again busy months for groundfish, with things slowing to a stop during part of November and all of 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 120 people during peak seasons (down from the approximately 150 and 200 reported for peaks in 2008 and 2004, respectively), 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 and the Ukraine). In recent years Global has had a formal agreement with an agency to facilitate these hires for some years, while in other years formal agreements were not utilized. In those years without formal agreements, a number of former student workers returned on their own, however, so this particular overseas labor pool has continued 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, with a minimum of 6 to 8 maintenance workers and helpers present when production at the plant is completely stopped.

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 as 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 operates the Kodiak Laboratory on the premises; the ADFG; and the University of Alaska Fairbanks School of Fisheries and Ocean Sciences. Further, the NOAA Fisheries research vessel *Oscar Dyson* is homeported 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 recontacting businesses that were included in interviews in 2004 in a pre-BSAI crab rationalization social impact assessment effort as well as recontacted during the 2008 crab rationalization 3-year program review 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. According to current (2010) interview information, operations at the plant are little changed from those described in previous (2004 and 2008) profiles. 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. Both salmon oil and white fish oil are produced at the facility. 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 earlier (2004) interview data, the impetus for the current larger-scale operation began in the mid-1990s when the U.S. Environmental Protection Agency required Kodiak processors to more closely adhere to federal environmental regulations, or risk significant fines and/or face shut-downs. 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. At present (2010), there are approximately a dozen employees on-site when the plant is operating, including at a minimum an operator, a system operator, two maintenance workers, four product baggers, a manager, and an administrative assistant. The plant takes biowaste from all of the processing operations in Kodiak, including those that were not part of the group that originally capitalized the plant. Those in the consortium that capitalized the plant are given priority if there are scheduling conflicts, but according to interview data, this reportedly has only happened once and in that instance the plant production capacity was impaired due to system operational issues. Operation levels at the fishmeal plant fluctuate during the year in parallel with the seasonal activity levels at the processing plants it supports.

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 into 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 swivels 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 60 percent of revenues (down from about 70 percent estimated in 2008), while seine and other miscellaneous gear types account for about 40 percent of revenues. Commercial fishing as a whole accounts for around 85 to 90 percent of Net Systems' overall business, a figure that has remained unchanged from that estimated in earlier (2004) interviews. 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 (2010) has 2 regular employees, a level of staffing consistent with what was reported in both 2004 and 2008. According to interviews conducted in 2008, there had, however, been an improvement of business conditions in the previous several years with a rebound of the salmon fishery, which reportedly easily doubled seine-related business over what was seen only a few years earlier. According to current (2010) interviews, this portion of the business has continued to grow since the beginning of a revitalization salmon sales around 2006. According to Net Systems staff, the strength of the salmon fishery has brought a number of former participants back to the fishery, utilizing vessels and gear that may have sat for years and that are in need of repair, which has generated business as well, a pattern apparently seen before following several consecutive years of an economically strong salmon fishery. 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. There have continued to be changes in timing, however, as while rockfish-related business relatively recently would fit in a dip in activities between the red and humpie salmon pulses, it has now (2010) spread out more, overlapping again with busier periods.¹¹⁴ 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. Recently, late-quarter cod fishery-related business activity is reportedly up, becoming more prominent locally than pollock during this time of year, with both a rise in the price of cod and a reported relatively late schooling of cod compared to previous years. When local Tanner seasons are open there is also some activity related to the local crab fleet gearing up in December.

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-

¹¹⁴This, reportedly, can cause some difficulties for local rockfish fishermen as processors are less interested in rockfish during peak salmon times, especially in times of high salmon prices, but rockfish fishermen are somewhat constrained by their own seasonal considerations related to both the rockfish fishery and other fisheries in which they participate.

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 8 or 10 years ago (long before rationalization) and, as of 2010, still has some left, typically now selling it for uses other than crabbing. According to senior staff, the fleet consolidation that accompanied BSAI crab rationalization has not affected Net Systems' direct sales, because major Bering Sea crab-vessel related business was minimal to nonexistent in the years leading up to rationalization, although there were, and continue to be, at least a minimal amount of crab-related sales of buoy line, sinking line, twine, and incidentals. These sales, however, are considered more "nickel and dime" types of transactions when compared to other fisheries sales. On the other hand, the business has 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, including the salmon and jig 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, a figure unchanged from what was reported in 2008. 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 at the time of the 3-year crab rationalization program review (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 October and were worth more in sales than was the local trawl sector. While there had been negative impacts with the loss of business, Kodiak Marine Supply was characterized by local management as "rolling, adapting" to the changes brought about by rationalization. According to current (2010) interview data, there are even fewer crab boats left in the community generating business for Kodiak Marine Supply than there were in 2008, but sales supporting the pot and longline cod fishery have increased during this same time. Further, increased optimism of salmon fishermen, based on several strong years, has translated into increased sales related to that fishery. Overall, Kodiak Marine Supply has reportedly seen at least slight increases in revenues in the interval between the 3-year (2008) and 5-year (2010) crab rationalization review efforts. It is still reportedly the case, however, that nothing has replaced the level of activity formerly seen with the crab fleet during the month of October.

Sutliff True Value Hardware reports that currently (2010) about 60 percent of its business is fishing related (up from approximately 50 percent reported in 2008), while the balance of its sales include housewares, paint, clothing, building supplies, lawn and garden, and nonmarine hardware supplies. The store currently (2010) has about 25 employees, virtually all of whom are full-time. During summer seasons, one part-time employee is typically added to the staff. This level of staffing has reportedly been steady for several years. 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. One trend observed by senior store staff since the time of the 3-year crab rationalization program review (2008) is a local reinvestment in all local fisheries fleets directed toward both economic efficiencies and quality improvement. Examples cited of this trend over the last 2 years have been replacement of older engines with more fuel-efficient newer ones (especially advantageous in a era of continuing higher fuel prices) and upgrading of refrigerated seawater systems. According to senior store staff, while there was a short-lived, slight dip in the Kodiak economy following the onset of the ongoing national recession as experienced in the Lower 48 (which apparently largely did not impact Kodiak [apart, it is assumed, from those local residents who had invested outside]), the revitalization of local fisheries has been accompanied by strong sales at the Sutliff store that, in turn, has resulted in increasing annual revenues. Based on Sutliff experience, one apparent source of capital that has helped this trend of local vessel reinvestment was the recent (late 2008 and early 2009) disbursement of *Exxon Valdez* oil spill impact-related renumeration.

In terms of impacts of BSAI crab rationalization, in 2008 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 these factors had not resulted in a change in employment levels at the store, they reportedly had a significant impact on the revenues generated by the store. At present (2010) staff reported that crab-related sales are still down compared to pre-rationalization levels, but the hole in revenues created by the loss of crab sales has been filled with sales related to other fisheries.

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 Walmart store in the community, which occurred in 1999 prior to the implementation of BSAI crab rationalization. While Walmart 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 (2010), about 90 percent of their current business in Kodiak is fishing related, which is consistent with the figures reported in 2008 and 2004. The vessel support work is split between the shop and on board vessels, with an estimated 70 percent of all work taking place 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 spring and early summer, and trawl vessel work is concentrated in November and December, with routine maintenance for all vessels more evenly spread throughout the year. Alaska Hydraulics also provides technical support to remote salmon sites and troubleshoots 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 (2010) employs nine persons, the same as reported in 2008 and 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 workload 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. All told, Alaska Hydraulics management estimates that currently (2010) five or six historic crab vessels in town come to them for regular crane maintenance. In addition to this business, Alaska Hydraulics has had some additional business as a result of the arrival of the city boat lift, which has served to bring additional vessels to town for service. 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, including crane repair. Island staff report that approximately 85 percent of its business is generated through fishing/marine services, with the remaining 15 percent attributable to servicing land-based commercial clients, including the trucking industry. Island Hydraulics currently (2010) has three steady employees, all of whom are local residents, the same as reported in 2008 and 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, particularly for crane repair, although the winter of 2009–2010 was slower than it had been in recent memory. 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, in the more distant past a higher relative volume of repair work was associated with crab and salmon seasons. This activity had begun to increase in 2008, but has reportedly dropped off in 2009 and 2010 since many of the repairs that were to be made have occurred, and the repairs made in 2008 are yet to wear out. Island Hydraulics also remanufactures cranes at the processing plants, though this is characterized as “a tiny portion” of their overall work and as of 2010 may include three to four crane repairs all year. Recently, the company also added a crane truck to its operation, as well as a 65-ton crane rig. This has had the effect of diversifying Island Hydraulics’ business without directly competing for the same market niche pursued by other established businesses. 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. The 65-ton crane rig has been used in town primarily for construction projects and has been utilized in the construction of the new pool, the Kodiak Boatyard travel lift, and was being rented by the rocket launch facility at the time of interviewing in 2010.

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” and “changed things around” 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, has 9 employees as of 2010 (reportedly employing the largest number of welders in Kodiak), which is the same number as reported both in 2004 and 2008, 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 the same as estimated in 2008, but 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 the last 20 years or so). In addition to welding *per se*, Arc N' Spark offers machine work, 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 at present (2010) 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, a pattern that has remained constant from what was reported in the crab rationalization 3-year review in 2008. 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, between storage and vessels. This component of the business was reported in 2008 to have changed in the previous few years, with very little crab pot movement taking place after the implementation of the BSAI crab rationalization program. With a capacity to haul 17 to 20 pots per trip, Arc N' Spark reportedly sees only three to four crab pot hauling jobs per year at present (2010), consistent with the level of activity that was reported in 2008. The owner of Arc N' Spark reported in 2008 that pot hauling in general is a business in decline in Kodiak, and not just for his particular business. Even prior to the implementation of crab rationalization, Kodiak boats were apparently tending to store more gear out west than was historically the case. The lower volume of Kodiak-stored gear is now (2010) 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, a pattern that was also reported in 2008. One of the community infrastructure changes that has occurred since the 3-year crab rationalization program review (2008) is the completion and opening of the city-owned Kodiak Boatyard in Kodiak harbor. This facility is run as an open yard and has generated "a few little jobs" for Arc N' Spark, but it has also attracted other service providers from outside of the community that compete with Arc N' Spark not only for the particular jobs that may have brought them to the community, but for other work as well once they have established at least an occasional presence in the community. In some cases, local vessels that used to be serviced in Seward or Oregon, for example, and are now utilizing the new large boat lift at the Kodiak Boatyard facility have attracted service providers from those other communities to Kodiak, as those providers have followed their established customers to town. Overall, the owner of Arc N' Spark suggested that the new boatyard facility has been good for the community overall, but may have been a slight negative for his business in particular. In general, business at Arc N' Spark has been characterized as steady since the time of the 3-year crab rationalization program review (2008). At present (2010), the owner of the business is implementing steps toward a management succession within the company.

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, resulting in less service demand in-and-of itself, 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 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 has not, for example, stocked bait choppers in many years, and stocks relatively few pot hooks, throwing hooks, and the like compared to pre-rationalization years. A further impact noted by the owner in 2010 was the result of former crab crew members getting into the welding business, providing additional competition in the local market. While these typically one-man operations may not have a number of advantages that Arc N' Spark may be able to provide their customers, reportedly jobs can go to these smaller operations based on previous relationships and personal knowledge of the individuals involved, not necessarily pure economic business decision-making based either on price or efficiencies. 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, but the business is now (2010) characterized as having stabilized, if at a lower level of crab-related revenues as a part of their overall revenue stream. There has reportedly also been recently an "uptick" in work on local crab vessels or former crab vessels that are currently tendering in the strong salmon fishery, particularly given the loss of tendering capacity that accompanied fleet consolidation with crab rationalization (but, in general, the business reportedly does not see much annual variation based on any particular fishery being up or down in a given year or over the course of a few years, which is in contrast to what is reported for a number of the other local support service sector businesses).

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 for 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 in 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. At present (2010), 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, a pattern that was reported in 2008, but that at that time represented a shift more toward sport vessels than was seen in previous years. In terms of an annual cycle, the pattern reported in 2010 was consistent with the one

reported in 2004 and 2008: 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. In 2008, Radar had three full-time employees and one-part time employee, the latter being a high school student who worked after-school hours. At present (2010), Radar management reported a total of four employees in Kodiak: two full-time (one technician and one nontechnician) and two part-time (one technician and one high school student).

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 more 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, especially during summer fishing seasons, 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 85 percent of Radar's business is sales (up from reported 66 percent in 2008), with the remaining 15 percent composed of technical service and repair (down from a reported 33 percent in 2008). This trend of declining technical service and repair as a proportion of overall business is attributed to many electronics being essentially treated as "disposable" as opposed to repairable, due to a number of factors, including the relative cost of repair, the pace of innovation (and therefore obsolescence) in technology, and the declining levels of documentation provided by manufacturers.

In terms of the impact of BSAI crab rationalization specifically, in 2008 Radar Alaska reported 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, which remains the case at present (2010), such that crab rationalization has “left a hole that has never been filled.” Some crab 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 covered by the crab rationalization 3-year program review, however, the trawl sector has picked up at least some of the slack, with locally supported trawling activity occurring during more of the year than was previously the case. At present (2010), trawl-related business is no longer on the incline, but it has reportedly stabilized. While some other businesses reported incremental increases in sales in 2008 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 did not see this directly, although there was an 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. While these types of work are no longer as common at present (2010), according to senior Radar staff, acclimating to post-BSAI crab rationalization conditions has included, and continues to include, 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. The owner specifically reports that as an Alaska Native-owned business, he is in a particularly good position to obtain and retain the USCG as a client, which has helped on the aircraft side of the business with a decline in aircraft work associated with the herring fishery. 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, a pattern that has more-or-less continued to the present (2010), although there are some exceptions, with salmon-related work increasing and trawl-related work plateauing or even declining somewhat, based on relatively high fuel prices and relatively low fish prices. Currently (2010), fishing-related work is estimated to account for 85 percent of the firm’s revenue, down slightly from the 2004 estimate. Full-time, steady employment at the firm is limited to the owner, but part-time help is added as the demands of particular jobs dictate.

Currently (2010), approximately 65 percent of business revenues derive from sales (and sales with services) (up from approximately 60 percent reported in 2008) and approximately 35 percent from straight service (down from approximately 40 percent reported in 2008). The business is unique in Kodiak due to its focus on exhaust systems and cooling issues for jet units. The busy season runs from October (starting a month earlier than reported in 2008) 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 was apparently less of a specific consideration for customers by the time of the crab rationalization 3-year program review (2008) than in previous times, the 6 weeks or so between the end of IFQ halibut fishing in November and the start of cod and local Tanner seasons in January make up a particularly busy window, although relatively low local Tanner harvests have slowed the pace of the work during what is still a busy time. Recent changes in business demand have included an increase in vessels repowering to improve fuel efficiency in response to rise in fuel prices. Other business changes since 2008 have included the addition of a full machine shop and a number of changes related to changing technology, with an increase seen in remote design work utilizing digital platforms. Use of digital platforms and the construction of a database holding key information on customer's vessels allows more accurate and efficient production by relieving vessels on the fishing grounds (and that are in the database) of the responsibility of having to do accurate field measurements. Additionally, the local resurgence of the salmon industry has brought a number of local residents and locally based operations back into the fishery after varying periods of inactivity, which has translated into additional sales, including propulsion system work on the first new seine jet skiff known to be built in the last decade or so. Further, the owner of the business reports that *Exxon Valdez* impact settlement monies recently by a number of local fishermen have often been spent on their vessels in a number of forms, including the repowering of boats, generating additional business. On the down side, there has reportedly been a drop-off in sport charter boat-related work, based on a drop in charter boat customers due to the ongoing national recession and concerns over the future of the halibut charter fishery due to concerns over the potential for the imposition of further catch restrictions. The opening of the new city-owned Kodiak Boatyard, with its heavy lift capacity, has not directly translated into an increase in business, as the owner of the business did not become an authorized vendor for the facility, and the work typically performed can be done as easily in the water before or after haul-out as opposed to while the vessel is in the boatyard (which then requires either high equipment lifts or cutting an access hole through the vessel hull).

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 by the time of the crab rationalization 3-year program review (2008) none were. At present (2010), however, the business has regained three crab boats as steady customers, and recent work has included the repowering of a crab vessel following salmon tendering in Bristol Bay in 2009. Prior to rationalization, approximately 25 crab vessels were reported to be occasional customers, while only "a very few" are at present (2010), although 4 or 5 vessels were reported to have been at the time of the 3-year review (2008). Further, with crab there has been little in the way of 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 business does vary based on a number of factors, including fishing and nonfishing variables. For example, the winter of 2007–2008 was characterized as particularly slow due 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, Petro Marine Services and North Pacific Fuel. 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. Petro Marine started their business around 50 years ago in Seward and extended to service in Kodiak in 1986. The company provides diesel fuel to vessels and automobiles, nondiesel automobile fuel, home heating fuel, and Jet A fuel to the airport. Petro Marine also provides engine grease and oil for the commercial fleet, as well as fuel, oil, and grease services for approximately 90 percent of the seafood processors in Kodiak. Petro Marine management estimated that about 50 percent of their annual business is from marine sales, although this was said to vary depending on the year and if certain factors, such as a cold winter, affected other aspects of the fuel business. In terms of local employment, Petro Marine employs about 12 local residents. With respect to BSAI crab rationalization and fleet consolidation, Petro Marine management reports seeing a decrease in the number of crab vessels purchasing fuel, with many vessels leaving the local fishery and not many vessels replacing those that have left. Other commercial fishery factors have been at work during this time, however, and management also reports that fewer salmon vessels have purchased fuel in recent years because low salmon prices have prevented some people from participating in the fishery, although with the salmon fishery on the rebound at present (2010), this may change. Conversely, cod fishing boats with jig gear have increased in the last few years, as well as halibut vessels, as prices for these species have increased. Reportedly, fuel sales to crab fleet before rationalization included an estimated 10 to 12 vessels, with an estimated 4 crab vessels continuing to purchase fuel post-rationalization. Additionally, it was noted that no crab vessels are now contracted customers (2010), which was not the case pre-rationalization. This drop, however, was characterized as, “not a big deal in the grand scheme of things,” for Petro Marine’s fuel sale business that includes automobile, home heating, and Jet A sales, and that fuel sales—on the whole—have remained fairly constant since prior to rationalization.

North Pacific Fuel utilizes a terminal in Kodiak that reportedly began operations under Union Oil of California ownership approximately 60 years ago. Like Petro Marine, North Pacific Fuel delivers 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 derived from servicing fishing vessels (with less than 5 percent linked with catcher processor vessels), while the remaining 35 percent of their sales were associated with the residential market and processing plants, among other land-oriented sales. At the time of the crab rationalization 3-year program review (2008), however, local management reported that it was not possible to characterize such a marine/land split with then readily available data. Further, as there is not a fixed land business base, due to contracts varying annually, each year was said to be 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. At present (2010), local management reports that there has been somewhere between a 1 and 8 percent shift toward land-orient services (away from marine services) when compared to the 2004 characterization, but that while individual years are variable, the fishing fleet still typically accounts for more than 50 percent of local sales. Important customer services related to the nonfishing fleet include holding the fuel contract for the USCG base and supplying local construction activities, which, while typically of short (seasonal) duration, have provided what has been characterized as a good

volume of sales. Overall, annual fluctuations in revenues have been small, with less than a 1 percent per-year change between the crab rationalization 3-year and 5-year reviews (2008 and 2010, respectively). In terms of local employment, there are currently (2010) 15 people employed at the local terminal and another 2 at the local gas station, with this level of employment having remaining unchanged from what was reported in 2004 and 2008. 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 a 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. 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. According to current (2010) interview data, the reduced value of crab-related fuel sales has not had a net impact on the business, due to the increased shift toward land fuel sales.

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, Walmart, and Cost-Savers.

The Kodiak Safeway store was specifically designed to 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 reduce downtime between fishing trips, generating customer loyalty, but crew often 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 several thousand dollars per trip, per vessel (with orders up to \$8,000 seen in unusual situations).

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 local Tanner crab opening in January would typically generate a high level of activity, but in recent years this has apparently not been as substantial as in previous times, but the “waters are muddied” on this by co-occurrence with fisheries to the west. The local Tanner fishery, just by being a local fishery, generates different demands than more distant water fisheries in terms of the level of provisioning that the vessels need. Safeway management reports that the local store employs 120 year-round persons at present (2010), supplemented with an additional 20 or so temporary workers during the summer peak. For the shorter winter peak, which lasts 7 or 8 days at its highest level of activity, the regular staff of the store will work longer hours to get through the high demand period rather than increasing capacity through the hiring of temporary staff. This overall level of staffing is up somewhat from the 110 to 135 persons indicated in earlier (2004) interviews, but overall patterns have remained the same since the 2008 crab rationalization 3-year program review characterization. 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, and this statement remains true today (2010). The store staff, however, continues to try and talk to local fishermen to anticipate the needs of upcoming seasons.

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 since 1998 (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 (1999) that Walmart 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, and the store remains in an elite class of sales volume for the Seattle/west coast Safeway corporate region.

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 was in 2008 and remains today (2010) at 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 ADFG 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. At the time of the crab rationalization 3-year program review (2008) only five to six large crab vessels were typically anticipated to shop at the store per season, and management reported no longer needing to chart a detailed strategy, identify vessels, schedule extra staff, or order extra inventory related to crab vessel openings. The difference in the time that was formerly the BSAI crab season peak “was day and night” or like comparing “Christmas Eve to a regular day” in the words of store management. While this is a marked change, Safeway management reported that crab even at its peak was a small proportion of annualized sales. If one looked at the 9-day peak crab sales window in isolation, the decline as the result of rationalization would appear to be a “bloodbath” and the decline might also be identifiable if one looked at a particular quarter. However, if a 52-week perspective is taken, sales held their overall levels in the store, such that the impact was not readily identifiable. In general, senior staff characterized BSAI crab rationalization in 2008 as not hurting the grocery industry in Kodiak as people “still need to eat” and continued to spend on groceries even if they needed to cut back elsewhere. At present (2010), according to management interviews, the same general pattern applies, although there may be fewer crab vessels shopping at the store than were seen in 2008. Under present (2010) conditions, before the crab seasons open the staff will talk and “lift purchases a bit” to ensure a steadily available supply of goods for regular customers, but management staff also noted that, particularly for the January openers, the staff already has “a heavy pencil” when it comes to ordering inventory for the store to meet holiday needs, and the extra bump of post-rationalization crab vessels sales can quite easily be accommodated without the comprehensive approach to inventory and sales management needed in the pre-rationalization days. According to store management in 2010, loss of sales related to crab rationalization may be characterized as “down on the up side,” meaning that while overall store sales have continued to increase annually, it is assumed that they would have increased more (or increased from a higher base) if the level of crab sales matched their pre-rationalization years. The store is clearly economically healthy but, from the perspective of local management, how much healthier the store would have been is an open question. Complicating the answer to this question is the fact that many of the store’s “regular” customers are fishermen or fishermen’s families, but the impact of the loss of crew income on the business is not identifiable with available information.

Food-For-Less, an Alaska Commercial Company-owned store, is a general store located near the harbor but, according to its manager during an interview for the crab rationalization 3-year program review in 2008, Food-For-Less did not provide a substantial amount of groceries to vessels (unlike Safeway). During a recent (2010) interview, however, the current store manager (a different individual than the store manager interviewed in 2008, and a person new to Kodiak) reported that Food-For-Less does see a substantial volume of vessel-related sales. Vessel crew members typically purchase fresh items and can fax, call, or e-mail their order to Food-For-Less for delivery to the nearby dock. The store also caters to other residents in the harbor area, particular processor personnel, carrying a large Asian foods selection. The store continues to provide a substantial volume of duty free tobacco sales to fishing vessels, as described in the crab rationalization 3-year review (2008), and also generates these types of sales to crew members from visiting ferries and cruise ships. At present (2010), maritime duty free tobacco sales account for several thousand dollars in revenue to Food-For-Less per week, and the rate of sales has reportedly

remained fairly constant for the past several years. As reported in 2008, according to store management 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*, a pattern confirmed in 2010. Also according to local management, however, impacts to Food-For-Less as a result of BSAI crab rationalization have been characterized as “miniscule” (2008) or not noticeable (2010) relative to the overall bottom line of the store. In 2008, local management observed that, at least among its customers, 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. In 2010, local management noted that vessel sales have otherwise been affected by participation in the other Kodiak fisheries, particularly cod and salmon seasons, which typically affect the store more than BSAI crab fisheries. In general, in 2010 the store was characterized as having been negatively affected over time by the presence of Safeway and Walmart, which have reduced Food-For-Less local market share, as well as shorter seasons and/or adverse economic conditions that have accompanied a range of fisheries at different times.

Walmart and Cost-Savers are two stores located away from the harbor area that were identified as attracting some vessel business. Neither store was profiled in either the crab rationalization preimplementation study (2004) or the crab rationalization 3-year program review (2008), so the information presented in the following paragraphs represents a longer recall horizon on the part of the interviewees than is the case for the other stores profiled, where interview data were gathered in both previous profile efforts.

Walmart was established in Kodiak in 1999. Like similar Walmarts across the country, the Kodiak location carries a range of household items, including electronics, sporting goods, toys, housewares, cleaning supplies, and furniture, as well as groceries and frozen foods. Walmart also has a pharmacy and money-order transfer services. In contrast to Safeway or Food-For-Less, however, Walmart does not cater specifically to vessels and does not provide delivery services to the harbor. In terms of impacts from BSAI crab rationalization, store management could not identify a particular drop in sales attributable to the management program, but did note that sales have been a bit down in the past 5 years due to depressed prices for a number of other fisheries, including the salmon fishery, which would typically provide a small boost in sales before its opening in the summer. On the whole, however, Walmart staff could not identify substantial shifts in revenue from the commercial fishery other than the fact that many families related to commercial fishing (including processor families) will regularly shop at Walmart and, when commercial fishing suffers as an industry, residents spend less money at the store.

Cost-Savers, however, is geared toward the commercial fisherman and provides a completely different set of products than Walmart. Billed as “Kodiak’s Costco Connection,” Cost-Savers specializes in bulk groceries. This store was opened in 1999 by a former employee of the local Food-For-Less store, and, according to store management, is often a first stop by commercial fishermen for groceries when pulling into Kodiak. Like Safeway and Food-For-Less, Cost-Savers delivers groceries to the harbor, as well as coordinates grocery deliveries to nearby villages, set-net camps, and processing plants via airlines or the vessel *Lazy Bay*. The owner attributes his success marketing to commercial fishermen to his own participation in the commercial fisheries, providing him with a perspective as to what is convenient and necessary on vessels, as well as being a familiar face from whom to buy for long-time commercial fishermen still engaged in the fishery. In terms of being affected by BSAI crab rationalization,

Cost-Savers management reports that the fewer boats and fewer customers did affect business temporarily, but the store was able to adjust by buying stock at different times to correspond with the new seasonal demands. Direct comparisons between specific fishery-related sales patterns are somewhat complicated by the types of groceries that are popular with particular fisheries, with crab fisheries more likely to purchase fresh produce to augment frozen produce brought from Seattle or elsewhere, while the local salmon fishery will purchase smaller amounts of bulk items due to fewer days at sea. It was noted that the recent construction in town had also resulted in some additional business, as construction crews would purchase bulk items from Cost-Savers.

Boatyard Services

Kodiak also has two boatyards for vessel support. The Kodiak Boatyard, owned and operated by the city, is discussed in Section 2.4.4 as part of the description for the Boat and Harbor Department. Fuller Boatyard, however, 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 (2010), Fuller's has one employee in addition to its owner (who fishes salmon in addition to owning the yard), the same level of employment as reported in 2008. Fuller's operates primarily as an open air repair facility on 4.4 acres of tidelands on the Near Island channel¹¹⁵ 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 an "open yard" that allows vessel owners to bring in their own tradesmen to do fabrication, maintenance, 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 either at the Kodiak Boatyard in the city harbor, or outside of the community. At present (2010), Fuller's primarily services the salmon seine fleet and halibut fleet, with fewer crab vessels, tenders, and pot cod boats than what was reported in 2004 and 2008. According to the long-time employee of the yard, there are now roughly 100 to 120 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 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,

¹¹⁵The 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.

although this segment of the business has reportedly declined in recent years relative to local fleet business. The boatyard 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 to 60 vessels stored over the winter at the yard. Business has picked up slightly in 2010 with the anticipation of increased salmon prices, resulting in some vessel owners to repair, replace, or add to their vessels before the salmon season opens.

In terms of the impact of BSAI crab rationalization on Fuller's boatyard, 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 boatyard while pursuing alternate fishing opportunities (e.g., tendering), such that the boatyard 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.

Electrical

One relatively large electrical business, previously known as Debenham Electrical Supply, left Kodiak following the implementation of crab rationalization but prior to the crab rationalization 3-year program review (2008).¹¹⁶ According to company management, in 1996 Debenham was purchased by Crescent Electric Supply, a national firm, which operated the Kodiak store under the Crescent name until its closure in 2007. According to a 2010 interview with the Alaska district manager for Crescent conducted for this 5-year program review, the decision to close the Kodiak store was based on several factors, including the high cost of doing business in Kodiak, patterns of decision making on the part of key customers, and changes in the fisheries customer base with a decline in the number of local vessels, including a decline in local crab vessels that accompanied crab rationalization. According to the district manager, while the Kodiak store never lost money, it was not as profitable an operation as the firm desired. In terms of customer decision making, two key factors were cited. First, purchasing decisions on the part of the local

¹¹⁶Debenham/Crescent Electric Supply was not contacted in the original (2004) preimplementation crab rationalization program social impact assessment as it was not identified at that time as a key fisheries support business. As a result, contemporaneously collected and directly comparable pre- and post-rationalization information similar to that available for other support sector businesses profiled in this section does not exist for this enterprise. In post-rationalization community interviews for the 3-year program review and the 5-year program review, however, this business was mentioned by others as one that experienced substantive impacts from the crab rationalization program. As noted in the introduction to the community profiles section of this document, the characterization of support services businesses is not exhaustive for the communities included, and this is especially true for Kodiak given the diversity and size of the support sector in the community (and limitations of time and resources for this social impact assessment), but efforts were made to capture key businesses that provided direct support and were particularly dependent upon the fishing industry in general and the BSAI crab fishery in particular. Debenham/Crescent was unusual in that it was not identified in initial network sampling over a broad cross-section of Kodiak interviews with knowledgeable industry participants, but was identified in post-rationalization assessment efforts.

USCG base, a very large local customer, were being made in Washington rather than Kodiak, disadvantaging the business. Second, purchasing decisions made by locally operating seafood processing plants, which represented another set of large local customers, were increasingly being made in Seattle rather than Kodiak, also disadvantaging the business. These factors, in combination with the high local cost of doing business and the reductions in the local fleet, led to the decision to close the Kodiak store and, while the loss of crab vessels was just one of several factors, it clearly did enter into Crescent's decision to leave Kodiak. According to a senior staff member of one of the local fishery organizations and a long-time Kodiak resident, the loss of this business has created ripple effects in Kodiak, as the service provided by Debenham/Crescent filled the needs of a number of businesses in the community beyond their core business of fishing industry (and governmental) customers, including providing access to a broad variety of electrical equipment, components, and services that provided support for many commercial and industrial businesses, contractors, and individual home owners.

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 (with most of the international shipping rights having been sold to MAERSK). In the spring of 2004, the Carlyle Group sold Horizon Lines to Castle Harlan, but the Horizon name was retained. Horizon operations in Kodiak at present (2010) are essentially the same as previously described in the crab rationalization 3-year review (2008). 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 cargo related to commercial fisheries do occur during different seasons, even within individual fisheries based on market demands for different product forms, including fresh forms. Locally based shipping entities did feel the impact of the ongoing national recession, with a decline of somewhat less than 10 percent of northbound revenues in 2009, but reportedly revenues have since rebounded to expected levels. The ongoing national recession, however, has also had an impact on shipping modes for the trans-Pacific routes, such that a number of Horizon vessels have been overhauled in Vietnam to increase 45-foot container capacity to serve China-U.S. routes with smaller vessels to fill a niche identified for recession-era growth in the coming years.

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. According to local Horizon management, a recent (March 2010) increase in MAERSK shipping rates has caused some market share redistribution in the region, with APL share increasing noticeably.

Samson Tug and Barge operates a freight hauling service in Kodiak, offering container transport and less than truckload (LTL) services for relatively small freight (but does not offer less than container load [LCL] services). Samson currently (2010) employs six people on a regular basis in Kodiak, including those managing the LASH terminal (see below), adding casual labor during the busy summer season. Typical loads shipped into Kodiak by Samson often include construction- and fishing-related materials, while loads leaving the community on Samson are dominated by fish products. Because ships with deeper hulls cannot get into the outlying communities in the Kodiak Archipelago, Samson barges can reach communities that larger platform carriers cannot. An example of fisheries-related shipping facilitated by this approach is Samson's transport of salmon and other products from the cannery at Larson Bay (which effectively uses barges as its dock system) to a central location in the greater Kodiak area for transfer to larger vessels. Samson also hauls containers destined for shipment on APL out of Dutch Harbor. Horizon contracts with Samson to haul empty containers to King Cove on a regular basis and Sand Point on an as-needed basis, 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 owned and operated terminal in the greater Kodiak area owned by the LASH¹¹⁷ Corporation. Formerly operated by Seaport Terminal Services, Inc., a subsidiary of the LASH Corporation, Samson Tug and Barge has operated the terminal and provided associated support services under the terms of a facility management contract since approximately October 2008. According to 2004 interview information, the terminal has over 1,200 feet of dock space. The terminal also has a number of services available, including warehousing, yard storage, crane services with 40-ton to 150-ton cranes, 45-ton forklifts, trucking, and water. Waste disposal is available on-site through a dumpster system, but that is not managed by Samson. Fuel service is not provided by Samson

¹¹⁷In 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.

either, nor are there permanent fuel facilities on the site, but fuel service is available for terminal users through delivery from Kodiak's local distributors. The terminal operator maintains three mooring buoys within the "designated anchorage" in Womens Bay to provide moorage capabilities for large vessels and barges. While vessel haul-out and storage services were available for most vessels up to 50 feet in length at the time of the crab rationalization 3-year review (2008), those services are no longer offered at the terminal except under emergency conditions (but are otherwise available in the community at Fuller Boatyard and Kodiak Boatyard). Numerous gear swaps by fishing vessels are made at the facility, particularly by vessels that have their gear stored in the nearby Bell's Flats area.

Kodiak State Airport is located about 4 miles southwest of downtown Kodiak. The airport is owned by the USCG, 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, including Unalaska/Dutch Harbor and King Cove). While volume of product moving by air is small in proportion to the volume of product that moves by surface transport, air shipping of seafood is nonetheless an important part of the local transportation economy. 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 2009. 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 three exceptions (the first-quarter taxes for 2007 and 2009 were lower than the first-quarter taxes in the previous years, as were the third-quarter taxes in 2009). All years show overall positive growth (all quarters combined) over the previous years in the range of years shown, although growth was relatively small in 2007 and 2009. For 2010, only first-quarter numbers are available. Combined sales taxes were \$3,347,822, a decrease of approximately 0.1 percent over the same quarter for the previous year. The degree of impact of the ongoing national recession, if any, on 2009 numbers is unknown.

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, as reported in the crab rationalization 3-year

Table 2.4-21. Total Sales of Twelve Kodiak Marine Supply and Services Businesses, 2004–2009

Quarter	Year						Percent change from previous year				
	2004	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
1st Quarter	\$2,367,140	\$2,656,511	\$2,925,099	\$2,631,386	\$3,350,469	\$3,297,685	12.2%	10.1%	-10.0%	27.3%	-1.6%
2nd Quarter	\$3,003,710	\$3,650,427	\$4,207,919	\$4,219,240	\$4,495,001	\$5,182,893	21.5%	15.3%	0.3%	6.5%	15.3%
3rd Quarter	\$2,590,335	\$3,085,760	\$3,367,510	\$3,804,994	\$4,131,875	\$3,926,586	19.1%	9.1%	13.0%	8.6%	-5.0%
4th Quarter	\$2,127,741	\$2,479,691	\$2,926,588	\$3,308,160	\$3,682,226	\$3,751,006	16.5%	18.0%	13.0%	11.3%	1.9%
Total	\$10,088,927	\$11,872,389	\$13,427,116	\$13,963,779	\$15,659,572	\$16,158,171	17.7%	13.1%	4.0%	12.1%	3.2%

Source: Knapp 2006; City of Kodiak, L. Freed, personal communication 2008; M. Munk, personal communication 2010.

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	Fourth Quarter 2009 compared to Fourth Quarter 2004	First Quarter 2010 compared to First Quarter 2005
Decrease of Any Size	3	4	2	1	3	4
Big Decrease	1	2	0	0	0	0
Increase of Any Size	9	7	9	10	8	7
Big Increase	“several”	6	8	1	8	4

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; M. Munk, personal communication 2010.

program review, while one of these businesses (Alaska Industrial and Marine Services) was no longer in business, of the remaining 11 firms, overall things were better in 2007/2008 (the third year post-rationalization) compared to the last year pre-BSAI crab rationalization (2004/2005) than they were in the first year post-rationalization (2005/06). In the fourth quarter of 2007, 9 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.¹¹⁸ 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 at the time of the crab rationalization 3-year program review did not change this finding, and it was still true that although as a group there did not appear to be a dramatic or obvious decline in sales, there were likely a number of these firms that were not doing the volume of sales that they otherwise might have been doing in the absence of BSAI crab rationalization. Additional tables on quarterly sales for major business types from 2002 to 2008 (Quarter 1) are presented in Attachment 3.¹¹⁹ 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. For this crab rationalization 5-year program review, information from the fourth quarter of 2009 and the first quarter of 2010 has been added to Table 2.4-22. As shown, more businesses showed a decrease in sales taxes from the pre-rationalization baseline than was the case at the time of the crab rationalization 3-year program review, although the number of businesses showing increases, or even “big increases” equaled or surpassed the number of businesses showing decreases (none of which were classified as “big decreases”). Similar to the previous table, the degree, if any, to which the ongoing national recession had an impact on 2009/2010 numbers for Kodiak support service businesses is unknown.

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. Please note that more recent data are not available. As shown, local operating revenues generated by taxes have increased each year through 2007. 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.

¹¹⁸ 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. For the 2009/2010 characterization compared to the pre-rationalization baseline, the same \$100,000 figure was used as a threshold to categorize “big” increases (or decreases) as was used in the 2007/2008 characterization. Threshold used to determine “big” decreases or increases in 2005/2006 not apparent in existing documentation.

¹¹⁹ This table also appeared in the crab rationalization 3-year program review. This table cannot be updated for the crab rationalization 5-year program review because the City of Kodiak is no longer maintaining these types of data in a comparable form.

Table 2.4-23. Kodiak Municipal Revenues 1999–2008

Revenue Source	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008*
Local Operating Revenues										
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	--
<i>Total Local Operating Revenues</i>	<i>\$17,508,094</i>	<i>\$17,864,782</i>	<i>\$17,566,734</i>	<i>\$17,137,449</i>	<i>\$16,682,082</i>	<i>\$16,428,165</i>	<i>\$17,905,396</i>	<i>\$19,010,447</i>	<i>\$20,914,687</i>	--
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	--
<i>Total Outside Revenues</i>	<i>\$1,172,295</i>	<i>\$1,016,645</i>	<i>\$1,061,094</i>	<i>\$1,251,985</i>	<i>\$950,054</i>	<i>\$1,044,492</i>	<i>\$724,532</i>	<i>\$1,073,877</i>	<i>\$1,400,166</i>	--
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	--

* Unlike the other communities profiled in this document, summary information is available for 2007 for Kodiak. Unlike the other communities in the document, however, comparable 2008 summary data for Kodiak were not compiled by the State of Alaska.
 Source: Personal comment, DCED, spreadsheets provided July 2008; September 2010.

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 2009, the severance tax total was \$1.3 million (of which approximately 99.5 percent came from fish), which was similar in absolute dollars to FY 2007. 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, while in 2009 this tax generated \$24,017 (Kodiak Island Borough 2009). (The intent of not taxing vessels more aggressively is to support the commercial fishing industry; the recent tax 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 1 percent to a little less than 5 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 2010 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 2010.

Table 2.4-24. Kodiak Island Borough Fish Tax Revenue Sharing, 1976–2010

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
2008	\$1,059,161
2009	\$1,288,927
2010	\$1,339,575

Source: 1976–2007 Kodiak Island Borough spreadsheet; 2008–2010 K. Short, Kodiak Island Borough Finance Department, May 12, 2010.

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 to 24 to 60 feet in length. Saint Herman Harbor, in Dog Bay on Near Island, has approximately 350 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 15 staff members, including 7 full-time patrol officers, which is an increase of 2 staff members overall and a decrease of 1 full-time patrol officer since the time of the crab rationalization program 3-year review (2008).

The City of Kodiak recently upgraded their vessel support facilities in the form of a travel lift located on city lands adjacent to St. Herman Harbor, establishing the Kodiak Boatyard in October 2009. The city obtained a grant from the federal Economic Development Administration for this project for approximately \$2 million, as well as \$4 million from the State of Alaska. The boatyard and travel lift were developed with public funds rather than as a private enterprise due to the city owning the tidelands upon which it is located (necessitating a public partnership in any event) and the capital-intensive nature of the project. The city had originally planned to partner with a private entity that would operate the lift, but the selected entity did not ultimately partner with the city. As of 2010, the city itself operates the boat lift and employs the services of the same individual who also operates the lift at Fuller Boatyard. Before the establishment of the Kodiak Boatyard, larger Kodiak vessels had to travel outside of the community (typically to Seattle or Seward) for dry dock repairs. The new travel lift at the Kodiak Boatyard has a 660-ton capacity for vessels up to 180 feet in length and 42 feet in width, giving it the ability to serve the entire local fleet. Before the arrival of the new Kodiak Boatyard travel lift, the largest lift in town was at the privately owned and operated Fuller Boatyard (150-ton capacity). Having a local facility that can service any vessel in the local fleet can potentially 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 can save tens of thousands of dollars in round-trip fuel costs alone associated with hauling out in Seattle, keeping vessel service dollars potentially circulating in the community.

With fleet consolidation that has accompanied fishery rationalization (most recently with BSAI crab rationalization) there was a concern that support service demand in Kodiak would decline, which has been seen by some businesses, as has been previously noted. It is hoped that the new travel lift will attract business from larger Bering Sea crab boats, including those not homeported in Kodiak, expanding the city's fishing-related economic base. Initial information would suggest that this is happening. Since opening in 2009, the Kodiak Boatyard travel lift had serviced 26 vessels by May 2010. Most vessels were from the local fleet, but a handful of vessels from other communities had been serviced in Kodiak because they had experienced mechanical (or other

operational problems) in nearby fishing grounds and found the Kodiak Boatyard more convenient than attempting to travel to Seward or Seattle.

The establishment of the Kodiak Boatyard, it is hoped, will generate additional business opportunities for other Kodiak marine support service providers, such as welding, hydraulics, mechanical, and electronics service entities. There is some anecdotal evidence that this is the case, as some local marine support service providers are reportedly finding work in the new boatyard that presumably would not have occurred in Kodiak if it were not for the presence of the large travel lift. One approach the city has taken to encourage additional support service business was to establish the Kodiak Boatyard as an “open yard” (similar to Fuller Boatyard), allowing vessel owners to bring in mechanics and tradesmen of their choice (so long as, in this case, the service providers meet city certification requirements, including being insured). Table 2.4-25 presents a list of service providers certified to operate in the Kodiak Boatyard. Many of these businesses have a history in Kodiak. However, it is reported that a number of service providers from elsewhere in Alaska, including some on the certified list, have established at least a seasonal or temporary presence in Kodiak since the opening of the Kodiak Boatyard, competing with marine support service providers with a longer established local presence, due to the success (or the potential for success) of the Kodiak Boatyard travel lift in attracting vessels. It should be noted that at the time of fieldwork, apart from inherently transient activities at the boatyard itself, there is no established, fixed-location private sector fishing support service commercial activity on Near Island, but the city is anticipating selling or leasing land for support service business development near the boatyard site.

Table 2.4-25. Kodiak Boatyard Certified Service Providers

Name	Service Provided
Alaska Hydraulics	Hydraulics
Alaska Marine Surveyors	Vessel surveying, damage condition, pollution; audio gauging
Alaskan Anvil	Refitting, rebuilding, extensions, new construction, welding, fabricating
Arc ‘N Spark	Welding, fabrication, crane service, machinist
Brechan Enterprises	Works only on Brechan Enterprises vessels
C-Wing Services, Inc.	Electrical, refrigeration
Fred Nass Enterprises	Machinist
Freddy’s Marine LLC	Fiberglass, build rolling chuck
Kodiak Diesel Service, Inc.	Sales, service, parts; authorized dealer for John Deere, Volvo, Pinta, Isuzu; twin disk and ZF marine transmissions; marine propulsions and powertrains
Kodiak Marine Supply	Retail supplier marine visqueen, zincs, tarps, paint, protective wear
Kodiak Sandblasting and Abrasive Sales	Sandblasting and abrasive sales
M.C. Welding	Welding, fabrication
Northern Welding and Repair	Welding, sandblasting, metalizing, shrink wrap
Quality Marine of Alaska	Complete propulsion, repower; certified welding and alloy piping
Radar Marine Electronics	Marine electronics
Sparky’s Welding	Welding

Source: List provided by Kodiak Harbormaster on 5/13/10.

Travel lift fees are structured in such a way as to discourage smaller vessels that now use Fuller Boatyard from using the new lift (to avoid direct competition between the publicly operated facility and a private sector provider), 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. Despite this pricing, some local vessels are more attracted to the Kodiak Boatyard travel lift because the 660-ton capacity and larger lift dimensions provide owners of smaller vessels with the opportunity to keep their vessels fully loaded with gear and fuel and still be lifted out, while they would have to unload their vessels and transfer fuel before being lifted by the 150-ton lift at Fuller Boatyard.

In terms of impacts of BSAI crab rationalization on harbor revenues, as of the crab rationalization 3-year program review (2008) moorage apparently had not been adversely affected. Between 2005 and 2009, however, moorage fees have been steadily raised, somewhat complicating direct fee comparisons in the last couple of years. While there are fewer large crab vessels in the community, those that are remaining are viable operations and, according to the harbormaster (based on 2008 interview information), able to pay their moorage fees. With the decrease in number of larger vessels, at the time of the crab rationalization 3-year program review (2008) there was no longer a waiting list for the larger boats as there had typically been in previous years, but at present (2010) there are again a least a few vessels (three in May 2010) over 100 feet waiting for new slips. The waiting list for the harbor as a whole has become longer in 2010 than it was in 2008, with approximately 55 vessels on the current wait list. While overall harbor fees may be easily compared year-to-year, detailed comparisons within vessel classes are somewhat complex because the structure of fees changed steadily from 2005 through 2009 to increase the costs per linear foot for all vessels and a number of vessels are in “hot bunk” status awaiting assignment of permanent (yearly) moorage slips upon an opening, as opposed to term (nonexclusive use) moorage. (Vessels in “hot bunk” status are moored in other vessels’ slips while the exclusive vessel is on the fishing grounds—effectively providing the city the opportunity to bill twice for the same slip.)

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. Some others are not inactive but no longer fish themselves, instead now serving exclusively as tenders. While vessels in these categories 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. Some other former crab vessels, however, appear to have increased their activity in other fisheries, as noted in Section 1.2, presumably generating a corresponding volume of support service business demand. 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 2.4-26 displays Kodiak harbor revenues for 2004–2009. As shown, moorage fees have increased every year during this period as have total harbor operating revenues.

Table 2.4-26. City of Kodiak Boat Harbor Enterprise Fund Revenues, 2004–2009

Operating Revenues	2004	2005	2006	2007	2008	2009
Moorage	\$752,550	\$1,040,705	\$1,183,387	\$1,366,121	\$1,500,403	\$1,690,576
Pier and dock fees	\$122,223	\$145,923	\$161,147	\$205,299	\$199,303	\$221,697
Administrative fees to other funds	\$70,000	\$70,000	\$70,000	\$70,000	\$71,640	\$72,540
Other fees and charges	\$149,585	\$155,934	\$173,896	\$213,162	\$189,373	\$170,304
Rentals	\$13,882	\$14,021	\$14,161	\$14,302	\$14,302	\$15,000
Penalties and interest	\$6,168	\$10,798	\$14,349	\$10,971	\$7,906	\$0
Other	\$0	\$27,748	\$0	\$15,013	\$16,559	\$13,882
Total operating revenues	\$1,114,408	\$1,465,129	\$1,616,940	\$1,894,868	\$1,999,486	\$2,183,999

Source: City of Kodiak Comprehensive Annual Financial Report 2007; 2009.

CHAPTER 3.0

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ATTACHMENT 1

**ANNUAL QUANTITATIVE FISHERY DATA (1998–2009/2010)
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	2007-2008	2008-2009	2009-2010	Pre-Ration-ization Average	Post-Ration-ization Average
Pounds															
Bristol Bay Red	14,290,271	11,162,522	7,473,777	7,682,520	8,628,929	14,623,764	13,506,396	--	17,282,614	14,777,160	19,515,989	19,537,438	15,448,852	11,052,597	17,312,411
Bering Sea Snow	243,250,200	184,693,785	29,440,846	20,231,297	28,512,334	25,541,268	21,504,123	22,590,045	33,650,926	32,478,251	57,481,577	53,727,852	46,360,874	71,970,487	44,739,896
Eastern Aleutian Golden	3,247,863	3,069,886	3,134,079	3,178,653	2,821,851	2,977,055	2,886,817	--	2,847,104	2,971,368	*	*	*	3,045,172	**
Western Aleutian Golden	2,444,628	*	2,112,052	1,970,243	1,890,710	1,797,103	2,046,123	1,920,930	*	*	*	*	*	**	**
Bering Tanner East	--	--	--	--	--	--	--	--	39,500	1,448,327	1,549,080	1,832,558	1,315,810	--	1,237,055
Bering Tanner West	--	--	--	--	--	--	--	--	888,176	535,810	246,299	84,036	2,848	--	351,434
Value															
Bristol Bay Red	\$37,313,764	\$69,334,788	\$35,129,062	\$36,083,814	\$52,967,001	\$73,180,530	\$62,770,874	--	\$75,761,813	\$53,926,631	\$83,911,598	\$96,942,301	\$67,908,896	\$52,397,119	\$75,690,248
Bering Sea Snow	\$135,790,155	\$179,729,517	\$53,930,055	\$30,712,512	\$38,516,817	\$45,676,188	\$43,689,714	\$40,492,511	\$38,509,008	\$52,046,972	\$96,562,114	\$72,835,340	\$52,191,532	\$71,067,184	\$62,428,993
Eastern Aleutian Golden	\$6,013,306	\$9,308,659	\$10,722,820	\$10,116,883	\$9,611,628	\$10,386,474	\$9,066,683	--	\$7,604,877	\$5,635,266	*	*	*	\$9,318,065	**
Western Aleutian Golden	\$4,671,104	*	\$6,612,831	\$6,379,813	\$6,133,102	\$6,119,689	\$6,885,032	\$5,912,523	*	*	*	*	*	**	**
Bering Tanner East	--	--	--	--	--	--	--	--	\$59,214	\$2,286,385	\$2,560,502	\$2,875,737	\$2,048,835	--	\$1,966,135
Bering Tanner West	--	--	--	--	--	--	--	--	\$1,283,313	\$848,566	\$414,563	\$118,813	\$4,248	--	\$533,901
Vessels															
Bristol Bay Red	274	256	238	224	234	242	243	--	87	80	72	76	69	244.4	76.8
Bering Sea Snow	229	241	222	201	182	185	183	161	75	65	74	73	67	200.5	70.8
Eastern Aleutian Golden	14	15	15	19	19	19	19	--	7	5	3	3	3	17.1	4.2
Western Aleutian Golden	10	3	15	11	8	5	6	5	3	2	2	2	2	7.9	2.2
Bering Tanner East	--	--	--	--	--	--	--	--	6	34	28	25	24	--	23.4
Bering Tanner West	--	--	--	--	--	--	--	--	42	36	29	41	25	--	34.6
Average Price per Pound															
Bristol Bay Red	\$2.61	\$6.21	\$4.70	\$4.70	\$6.14	\$5.00	\$4.65	--	\$4.38	\$3.65	\$4.30	\$4.96	\$4.40	\$4.74	\$4.37
Bering Sea Snow	\$0.56	\$0.97	\$1.83	\$1.52	\$1.35	\$1.79	\$2.03	\$1.79	\$1.14	\$1.60	\$1.68	\$1.36	\$1.13	\$0.99	\$1.40
Eastern Aleutian Golden	\$1.85	\$3.03	\$3.42	\$3.18	\$3.41	\$3.49	\$3.14	--	\$2.67	\$1.90	**	**	**	\$3.06	**
Western Aleutian Golden	\$1.91	**	\$3.13	\$3.24	\$3.24	\$3.41	\$3.36	\$3.08	**	**	**	**	**	**	**
Bering Tanner East	--	--	--	--	--	--	--	--	\$1.50	\$1.58	\$1.65	\$1.57	\$1.56	--	\$1.59
Bering Tanner West	--	--	--	--	--	--	--	--	\$1.44	\$1.58	\$1.68	\$1.41	\$1.49	--	\$1.52
Average Value per Vessel															
Bristol Bay Red	\$136,182	\$270,839	\$147,601	\$161,088	\$226,355	\$302,399	\$258,316	--	\$870,825	\$674,083	\$1,165,439	\$1,275,557	\$984,187	\$214,366	\$985,550
Bering Sea Snow	\$592,970	\$745,766	\$242,928	\$152,799	\$211,631	\$246,898	\$238,742	\$251,506	\$513,453	\$800,723	\$1,304,893	\$997,744	\$778,978	\$354,450	\$881,765
Eastern Aleutian Golden	\$429,522	\$620,577	\$714,855	\$532,468	\$505,875	\$546,657	\$477,194	--	\$1,086,411	\$1,127,053	**	**	**	\$543,554	**
Western Aleutian Golden	\$467,110	**	\$440,855	\$579,983	\$766,638	\$1,223,938	\$1,147,505	\$1,182,505	**	**	**	**	**	**	**
Bering Tanner East	--	--	--	--	--	--	--	--	\$9,869	\$67,247	\$91,447	\$115,029	\$85,368	--	\$84,023
Bering Tanner West	--	--	--	--	--	--	--	--	\$30,555	\$23,571	\$14,295	\$2,898	\$170	--	\$15,431

*Data suppressed due to confidentiality.

**Computation suppressed due to confidentiality of primary data.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

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	2007-2008	2008-2009	2009-2010	Pre-Ration-ization Average	Post-Ration-ization Average	
Alaska	South-Central	Anchor Point																
		Bristol Bay Red	0	0	0	0	0	0	1	--	0	0	0	0	0	0	0.1	0.0
		Bering Sea Snow	0	0	0	0	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	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
		Bering Tanner East	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Anchorage																
		Bristol Bay Red	6	6	5	6	6	7	7	--	2	4	4	4	4	4	6.1	3.6
		Bering Sea Snow	6	6	6	6	5	6	6	6	1	4	6	5	5	5	5.9	4.2
		Eastern Aleutian Golden	1	1	1	1	1	1	1	--	0	0	0	1	1	1	1.0	0.4
		Western Aleutian Golden	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0.4	0.2
	Bering Tanner East	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
	Bering Tanner West	--	--	--	--	--	--	--	--	--	1	3	2	2	2	--	2.0	
	Big Lake																	
	Bristol Bay Red	0	0	1	0	0	0	0	--	0	0	0	0	0	0	0.1	0.0	
	Bering Sea Snow	0	1	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	
	Western Aleutian Golden	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	--	0.0	
	Bering Tanner West	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
	Cordova																	
	Bristol Bay Red	2	1	1	1	2	2	2	--	0	0	0	0	0	0	1.6	0.0	
	Bering Sea Snow	1	2	1	1	1	1	2	1	0	0	0	0	0	0	1.3	0.0	
	Eastern Aleutian Golden	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	
	Bering Tanner East	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
	Bering Tanner West	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
	Kenai																	
	Bristol Bay Red	1	1	1	1	0	0	0	--	0	0	0	0	0	0	0.6	0.0	
	Bering Sea Snow	1	1	1	1	1	0	0	0	0	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	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	
	Bering Tanner East	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
	Bering Tanner West	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
	Homer																	
	Bristol Bay Red	9	8	8	8	7	6	5	--	3	3	3	4	3	3	7.3	3.2	
	Bering Sea Snow	8	8	8	8	7	6	6	3	3	2	3	4	5	5	6.8	3.4	
	Eastern Aleutian Golden	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	
	Bering Tanner East	--	--	--	--	--	--	--	--	--	1	1	3	1	1	--	1.4	
	Bering Tanner West	--	--	--	--	--	--	--	--	--	1	1	1	3	1	--	1.4	

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Pre-Rationalization Average	Post-Rationalization Average
		Seldovia															
		Bristol Bay Red	1	1	1	1	1	1	1	--	0	1	1	1	1	1.0	0.8
		Bering Sea Snow	1	1	1	1	1	1	1	1	1	1	1	0	1	1.0	0.8
		Eastern Aleutian Golden	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
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	1	0	0	0	--	0.2
		Seward															
		Bristol Bay Red	4	1	1	0	0	0	0	--	0	0	0	0	0	0.9	0.0
		Bering Sea Snow	3	1	1	0	0	0	0	0	0	0	0	0	0	0.6	0.0
		Eastern Aleutian Golden	0	0	0	0	0	0	0	--	0	0	0	0	0	0.0	0.0
		Western Aleutian Golden	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	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Wasilla															
		Bristol Bay Red	0	0	0	0	0	0	0	--	0	0	0	0	1	0.0	0.2
		Bering Sea Snow	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	0.2
		Eastern Aleutian Golden	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
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	1	--	0.2
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		<i>South-Central Total</i>															
		<i>Bristol Bay Red</i>	23	18	18	17	16	16	16	--	5	8	8	9	9	17.7	7.8
		<i>Bering Sea Snow</i>	20	20	18	17	15	14	15	11	5	7	10	9	12	16.3	8.6
		<i>Eastern Aleutian Golden</i>	1	1	1	1	1	1	1	--	0	0	0	1	1	1.0	0.4
		<i>Western Aleutian Golden</i>	1	0	1	1	0	0	0	0	0	0	0	0	1	0.4	0.2
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	1	1	3	1	2	--	1.6
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	2	5	3	5	3	--	3.6
	Southeast	Ketchikan															
		Bristol Bay Red	1	1	1	1	1	1	1	--	0	1	1	0	0	1.0	0.4
		Bering Sea Snow	1	1	1	1	1	1	1	1	0	1	1	0	0	1.0	0.4
		Eastern Aleutian Golden	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
		Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	0	0	--	0.4
		Bering Tanner West	--	--	--	--	--	--	--	--	0	1	1	0	0	--	0.4
		Pelican															
		Bristol Bay Red	0	0	0	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	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
		Western Aleutian Golden	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	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Petersburg															
		Bristol Bay Red	4	4	4	4	4	2	2	--	0	0	0	0	0	3.4	0.0
		Bering Sea Snow	4	4	4	4	4	2	2	2	0	0	0	0	0	3.3	0.0

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Pre-Rationalization Average	Post-Rationalization Average
		Eastern Aleutian Golden	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
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Sitka															
		Bristol Bay Red	2	1	2	2	2	2	1	--	0	0	0	0	0	1.7	0.0
		Bering Sea Snow	2	2	2	2	2	2	1	0	0	0	0	0	0	1.6	0.0
		Eastern Aleutian Golden	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
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Yakutat															
		Bristol Bay Red	1	0	1	1	1	1	1	--	0	0	0	0	0	0.9	0.0
		Bering Sea Snow	1	1	1	0	0	1	1	1	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
		Western Aleutian Golden	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	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		<i>Southeast Total</i>															
		<i>Bristol Bay Red</i>	8	6	8	8	8	6	5	--	0	1	1	0	0	7.0	0.4
		<i>Bering Sea Snow</i>	9	8	8	7	7	6	5	4	0	1	1	0	0	6.8	0.4
		<i>Eastern Aleutian Golden</i>	0	0	0	0	0	0	0	--	0	0	0	0	0	0.0	0.0
		<i>Western Aleutian Golden</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	0	1	1	0	0	--	0.4
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	0	1	1	0	0	--	0.4
	Aleutians	Akutan															
		Bristol Bay Red	1	0	1	1	0	0	0	--	0	0	0	0	0	0.4	0.0
		Bering Sea Snow	0	1	0	1	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
		Western Aleutian Golden	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	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Dutch Harbor/Unalaska															
		Bristol Bay Red	2	2	0	0	1	1	0	--	0	0	0	0	0	0.9	0.0
		Bering Sea Snow	1	1	0	0	1	1	1	1	1	0	0	0	0	0.8	0.2
		Eastern Aleutian Golden	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
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		King Cove															
		Bristol Bay Red	3	3	4	2	2	2	1	--	1	2	1	1	0	2.4	1.0
		Bering Sea Snow	3	2	3	2	1	1	0	0	0	0	0	0	0	1.5	0.0
		Eastern Aleutian Golden	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
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	1	0	0	--	0.2
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Pre-Rationalization Average	Post-Rationalization Average
		Sand Point															
		Bristol Bay Red	5	3	5	1	0	1	1	--	0	0	0	0	0	2.3	0.0
		Bering Sea Snow	4	2	3	0	0	0	0	0	0	0	0	0	0	1.1	0.0
		Eastern Aleutian Golden	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
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		<i>Aleutians Total</i>															
		<i>Bristol Bay Red</i>	11	8	10	4	3	4	2	--	1	2	1	1	0	6.0	1.0
		<i>Bering Sea Snow</i>	8	6	6	3	2	2	1	1	1	0	0	0	0	3.6	0.2
		<i>Eastern Aleutian Golden</i>	0	0	0	0	0	0	0	--	0	0	0	0	0	0.0	0.0
		<i>Western Aleutian Golden</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	0	0	1	0	0	--	0.2
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
	All Subregions (non-Kodiak)	<i>All Subregions (non-Kodiak)</i>															
		<i>Bristol Bay Red</i>	42	32	36	29	27	26	23	--	6	11	10	10	9	30.7	9.2
		<i>Bering Sea Snow</i>	37	34	32	27	24	22	21	16	6	8	11	9	12	26.6	9.2
		<i>Eastern Aleutian Golden</i>	1	1	1	1	1	1	1	--	0	0	0	1	1	1.0	0.4
		<i>Western Aleutian Golden</i>	1	0	1	1	0	0	0	0	0	0	0	0	1	0.4	0.2
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	1	2	5	1	2	--	2.2
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	2	6	4	5	3	--	4.0
	Kodiak	Kodiak															
		Bristol Bay Red	39	35	35	34	32	30	33	--	13	10	9	11	9	34.0	10.4
		Bering Sea Snow	31	33	34	28	25	22	21	21	10	8	10	11	9	26.9	9.6
		Eastern Aleutian Golden	1	2	2	2	3	3	3	--	0	0	0	0	0	2.3	0.0
		Western Aleutian Golden	2	1	1	2	1	0	0	0	0	0	0	0	0	0.9	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	5	2	4	1	--	2.4
		Bering Tanner West	--	--	--	--	--	--	--	--	5	3	5	6	4	--	4.6
	Alaska Total	Alaska Total															
		Bristol Bay Red	81	67	71	63	59	56	56	--	19	21	19	21	18	64.7	19.6
		Bering Sea Snow	68	67	66	55	49	44	42	37	16	16	21	20	21	53.5	18.8
		Eastern Aleutian Golden	2	3	3	3	4	4	4	--	0	0	0	1	1	3.3	0.4
		Western Aleutian Golden	3	1	2	3	1	0	0	0	0	0	0	0	1	1.3	0.2
		Bering Tanner East	--	--	--	--	--	--	--	--	1	7	7	5	3	--	4.6
		Bering Tanner West	--	--	--	--	--	--	--	--	7	9	9	11	7	--	8.6
Washington	Seattle-Tacoma CMSA	Seattle-Tacoma CMSA															
		Bristol Bay Red	153	146	130	127	131	136	139	--	48	44	39	43	39	137.4	42.6
		Bering Sea Snow	126	136	116	113	97	99	103	92	44	38	41	42	38	110.3	40.6
		Eastern Aleutian Golden	11	11	11	15	15	14	14	--	6	4	3	2	2	13.0	3.4
		Western Aleutian Golden	5	1	11	6	5	3	4	3	2	1	1	0	0	4.8	0.8
		Bering Tanner East	--	--	--	--	--	--	--	--	4	22	16	15	17	--	14.8
		Bering Tanner West	--	--	--	--	--	--	--	--	26	20	16	22	18	--	20.4
	Other Washington	Other Washington															
		Bristol Bay Red	18	18	16	14	15	18	19	--	7	6	4	4	4	16.9	5.0
		Bering Sea Snow	16	17	14	15	13	16	18	12	4	2	3	2	1	15.1	2.4

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Pre-Rationalization Average	Post-Rationalization Average
		Eastern Aleutian Golden	0	0	0	0	0	1	1	--	1	1	0	0	0	0.3	0.4
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	1	0	1	1	--	0.6
		Bering Tanner West	--	--	--	--	--	--	--	--	1	1	0	1	0	--	0.6
	Washington Total	Washington Total															
		Bristol Bay Red	171	164	146	141	146	154	158	--	55	50	43	47	43	154.3	47.6
		Bering Sea Snow	142	153	130	128	110	115	121	104	48	40	44	44	39	125.4	43.0
		Eastern Aleutian Golden	11	11	11	15	15	15	15	--	7	5	3	2	2	13.3	3.8
		Western Aleutian Golden	5	1	11	6	5	3	4	3	2	1	1	0	0	4.8	0.8
		Bering Tanner East	--	--	--	--	--	--	--	--	4	23	16	16	18	--	15.4
		Bering Tanner West	--	--	--	--	--	--	--	--	27	21	16	23	18	--	21.0
Oregon	Oregon Total	Oregon Total															
		Bristol Bay Red	15	18	16	16	21	25	23	--	11	8	9	7	7	19.1	8.4
		Bering Sea Snow	13	14	18	15	17	20	16	18	9	8	8	8	6	16.4	7.8
		Eastern Aleutian Golden	1	1	1	1	0	0	0	--	0	0	0	0	0	0.6	0.0
		Western Aleutian Golden	2	1	2	2	2	2	2	2	1	1	1	1	1	1.9	1.0
		Bering Tanner East	--	--	--	--	--	--	--	--	1	4	5	4	3	--	3.4
		Bering Tanner West	--	--	--	--	--	--	--	--	8	5	4	6	0	--	4.6
Other U.S.	Other U.S. Total	Other U.S. Total															
		Bristol Bay Red	7	7	5	4	8	7	6	--	2	1	1	1	1	6.3	1.2
		Bering Sea Snow	6	7	8	3	6	6	4	2	2	1	1	1	1	5.3	1.2
		Eastern Aleutian Golden	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	1	0	0.0	0.2
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	1	0	1	0	--	0.4
All States	All States Total	All States Total															
		Bristol Bay Red	274	256	238	224	234	242	243	--	87	80	72	76	69	244.4	76.8
		Bering Sea Snow	229	241	222	201	182	185	183	161	75	65	74	73	67	200.5	70.8
		Eastern Aleutian Golden	14	15	15	19	19	19	19	--	7	5	3	3	3	17.1	4.2
		Western Aleutian Golden	10	3	15	11	8	5	6	5	3	2	2	2	2	7.9	2.2
		Bering Tanner East	--	--	--	--	--	--	--	--	6	34	28	25	24	--	23.4
		Bering Tanner West	--	--	--	--	--	--	--	--	42	36	29	41	25	--	34.6

Note: Since 2005 was a transition year, pre- and post-rationalization averages do not include 2005.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

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	2007-2008	2008-2009	2009-2010	Pre-Ration-ization Average	Post-Ration-ization Average	
Alaska	South-Central	Anchor Point																
		Bristol Bay Red	0.0	0.0	0.0	0.0	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	0.0	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	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	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	0.0	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Anchorage																
		Bristol Bay Red	2.2	2.3	2.1	2.7	2.6	2.9	2.9	--	2.3	5.0	5.6	5.3	5.8	5.8	2.5	4.7
		Bering Sea Snow	2.6	2.5	2.7	3.0	2.7	3.2	3.3	3.7	1.3	6.2	8.1	6.8	7.5	7.5	2.9	5.9
		Eastern Aleutian Golden	7.1	6.7	6.7	5.3	5.3	5.3	5.3	--	0.0	0.0	0.0	33.3	33.3	5.8	9.5	9.5
		Western Aleutian Golden	10.0	0.0	6.7	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	4.8	9.1	9.1
		Bering Tanner East	--	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	--	2.4	8.3	6.9	4.9	8.0	--	5.8
		Big Lake																
	Bristol Bay Red	0.0	0.0	0.4	0.0	0.0	0.0	0.0	--	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	0.0	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	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	0.0	0.0	0.0	0.0	
	Bering Tanner East	--	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0	
	Bering Tanner West	--	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0	
	Cordova																	
	Bristol Bay Red	0.7	0.4	0.4	0.4	0.9	0.8	0.8	--	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
	Bering Sea Snow	0.4	0.8	0.5	0.5	0.5	0.5	1.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	
	Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	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	0.0	0.0	0.0	0.0	
	Bering Tanner East	--	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0	
	Bering Tanner West	--	--	--	--	--	--	--	--	--	0.0	0.0	0.0	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	0.0	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	0.0	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	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	0.0	0.0	0.0	0.0	
	Bering Tanner East	--	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0	
	Bering Tanner West	--	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0	
	Homer																	
	Bristol Bay Red	3.3	3.1	3.4	3.6	3.0	2.5	2.1	--	3.4	3.8	4.2	5.3	4.3	3.0	4.2	4.2	
	Bering Sea Snow	3.5	3.3	3.6	4.0	3.8	3.2	3.3	1.9	4.0	3.1	4.1	5.5	7.5	3.4	4.8	4.8	
	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	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	0.0	0.0	0.0	0.0	
	Bering Tanner East	--	--	--	--	--	--	--	--	--	16.7	2.9	10.7	4.0	4.2	--	6.0	
	Bering Tanner West	--	--	--	--	--	--	--	--	--	2.4	2.8	3.4	7.3	4.0	--	4.0	

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Pre-Rationalization Average	Post-Rationalization Average
		Seldovia															
		Bristol Bay Red	0.4	0.4	0.4	0.4	0.4	0.4	0.4	--	0.0	1.3	1.4	1.3	1.4	0.4	1.0
		Bering Sea Snow	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	1.3	1.5	1.4	0.0	1.5	0.5	1.1
		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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	2.8	0.0	0.0	0.0	--	0.6
		Seward															
		Bristol Bay Red	1.5	0.4	0.4	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.0	0.4	0.0
		Bering Sea Snow	1.3	0.4	0.5	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Wasilla															
		Bristol Bay Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	1.4	0.0	0.3
		Bering Sea Snow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.3
		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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	4.2	--	0.9
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		<i>South-Central Total</i>															
		<i>Bristol Bay Red</i>	8.4	7.0	7.6	7.6	6.8	6.6	6.6	--	5.7	10.0	11.1	11.8	13.0	7.2	10.2
		<i>Bering Sea Snow</i>	8.7	8.3	8.1	8.5	8.2	7.6	8.2	6.8	6.7	10.8	13.5	12.3	17.9	8.1	12.1
		<i>Eastern Aleutian Golden</i>	7.1	6.7	6.7	5.3	5.3	5.3	5.3	--	0.0	0.0	0.0	33.3	33.3	5.8	9.5
		<i>Western Aleutian Golden</i>	10.0	0.0	6.7	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	4.8	9.1
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	16.7	2.9	10.7	4.0	8.3	--	6.8
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	4.8	13.9	10.3	12.2	12.0	--	10.4
	Southeast	Ketchikan															
		Bristol Bay Red	0.4	0.4	0.4	0.4	0.4	0.4	0.4	--	0.0	1.3	1.4	0.0	0.0	0.4	0.5
		Bering Sea Snow	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.0	1.5	1.4	0.0	0.0	0.5	0.6
		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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	2.9	3.6	0.0	0.0	--	1.7
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	2.8	3.4	0.0	0.0	--	1.2
		Pelican															
		Bristol Bay Red	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	0.0
		Bering Sea Snow	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Petersburg															
		Bristol Bay Red	1.5	1.6	1.7	1.8	1.7	0.8	0.8	--	0.0	0.0	0.0	0.0	0.0	1.4	0.0
		Bering Sea Snow	1.7	1.7	1.8	2.0	2.2	1.1	1.1	1.2	0.0	0.0	0.0	0.0	0.0	1.6	0.0

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Pre-Rationalization Average	Post-Rationalization Average
		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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	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	0.0	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	0.0	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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	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	0.0	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	0.0	0.0	0.0	0.4	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		<i>Southeast Total</i>															
		<i>Bristol Bay Red</i>	2.9	2.3	3.4	3.6	3.4	2.5	2.1	--	0.0	1.3	1.4	0.0	0.0	2.9	0.5
		<i>Bering Sea Snow</i>	3.9	3.3	3.6	3.5	3.8	3.2	2.7	2.5	0.0	1.5	1.4	0.0	0.0	3.4	0.6
		<i>Eastern Aleutian Golden</i>	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	0.0
		<i>Western Aleutian Golden</i>	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	0.0	0.0
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	0.0	2.9	3.6	0.0	0.0	--	1.7
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	0.0	2.8	3.4	0.0	0.0	--	1.2
	Aleutians	Akutan															
		Bristol Bay Red	0.4	0.0	0.4	0.4	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.0	0.2	0.0
		Bering Sea Snow	0.0	0.4	0.0	0.5	0.0	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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Dutch Harbor/Unalaska															
		Bristol Bay Red	0.7	0.8	0.0	0.0	0.4	0.4	0.0	--	0.0	0.0	0.0	0.0	0.0	0.4	0.0
		Bering Sea Snow	0.4	0.4	0.0	0.0	0.5	0.5	0.5	0.6	1.3	0.0	0.0	0.0	0.0	0.4	0.3
		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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		King Cove															
		Bristol Bay Red	1.1	1.2	1.7	0.9	0.9	0.8	0.4	--	1.1	2.5	1.4	1.3	0.0	1.0	1.3
		Bering Sea Snow	1.3	0.8	1.4	1.0	0.5	0.5	0.0	0.0	0.0	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	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	3.6	0.0	0.0	--	0.9
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Pre-Rationalization Average	Post-Rationalization Average
		Sand Point															
		Bristol Bay Red	1.8	1.2	2.1	0.4	0.0	0.4	0.4	--	0.0	0.0	0.0	0.0	0.0	0.9	0.0
		Bering Sea Snow	1.7	0.8	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		<i>Aleutians Total</i>															
		<i>Bristol Bay Red</i>	4.0	3.1	4.2	1.8	1.3	1.7	0.8	--	1.1	2.5	1.4	1.3	0.0	2.5	1.3
		<i>Bering Sea Snow</i>	3.5	2.5	2.7	1.5	1.1	1.1	0.5	0.6	1.3	0.0	0.0	0.0	0.0	1.8	0.3
		<i>Eastern Aleutian Golden</i>	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	0.0
		<i>Western Aleutian Golden</i>	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	0.0	0.0
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	0.0	0.0	3.6	0.0	0.0	--	0.9
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
	All Subregions (non-Kodiak)	<i>All Subregions (non-Kodiak)</i>															
		<i>Bristol Bay Red</i>	15.3	12.5	15.1	12.9	11.5	10.7	9.5	--	6.9	13.8	13.9	13.2	13.0	12.6	12.0
		<i>Bering Sea Snow</i>	16.2	14.1	14.4	13.4	13.2	11.9	11.5	9.9	8.0	12.3	14.9	12.3	17.9	13.3	13.0
		<i>Eastern Aleutian Golden</i>	7.1	6.7	6.7	5.3	5.3	5.3	5.3	--	0.0	0.0	0.0	33.3	33.3	5.8	9.5
		<i>Western Aleutian Golden</i>	10.0	0.0	6.7	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	4.8	9.1
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	16.7	5.9	17.9	4.0	8.3	--	9.4
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	4.8	16.7	13.8	12.2	12.0	--	11.6
	Kodiak	Kodiak															
		Bristol Bay Red	14.2	13.7	14.7	15.2	13.7	12.4	13.6	--	14.9	12.5	12.5	14.5	13.0	13.9	13.5
		Bering Sea Snow	13.5	13.7	15.3	13.9	13.7	11.9	11.5	13.0	13.3	12.3	13.5	15.1	13.4	13.4	13.6
		Eastern Aleutian Golden	7.1	13.3	13.3	10.5	15.8	15.8	15.8	--	0.0	0.0	0.0	0.0	0.0	13.3	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	0.0	0.0	0.0	11.1	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	14.7	7.1	16.0	4.2	--	12.8
		Bering Tanner West	--	--	--	--	--	--	--	--	11.9	8.3	17.2	14.6	16.0	--	13.3
	Alaska Total	Alaska Total															
		Bristol Bay Red	29.6	26.2	29.8	28.1	25.2	23.1	23.0	--	21.8	26.3	26.4	27.6	26.1	26.5	25.5
		Bering Sea Snow	29.7	27.8	29.7	27.4	26.9	23.8	23.0	23.0	21.3	24.6	28.4	27.4	31.3	26.7	26.6
		Eastern Aleutian Golden	14.3	20.0	20.0	15.8	21.1	21.1	21.1	--	0.0	0.0	0.0	33.3	33.3	19.2	9.5
		Western Aleutian Golden	30.0	33.3	13.3	27.3	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	15.9	9.1
		Bering Tanner East	--	--	--	--	--	--	--	--	16.7	20.6	25.0	20.0	12.5	--	19.7
		Bering Tanner West	--	--	--	--	--	--	--	--	16.7	25.0	31.0	26.8	28.0	--	24.9
Washington	Seattle-Tacoma CMSA	Seattle-Tacoma CMSA															
		Bristol Bay Red	55.8	57.0	54.6	56.7	56.0	56.2	57.2	--	55.2	55.0	54.2	56.6	56.5	56.2	55.5
		Bering Sea Snow	55.0	56.4	52.3	56.2	53.3	53.5	56.3	57.1	58.7	58.5	55.4	57.5	56.7	55.0	57.3
		Eastern Aleutian Golden	78.6	73.3	73.3	78.9	78.9	73.7	73.7	--	85.7	80.0	100.0	66.7	66.7	75.8	81.0
		Western Aleutian Golden	50.0	33.3	73.3	54.5	62.5	60.0	66.7	60.0	66.7	50.0	50.0	0.0	0.0	60.3	36.4
		Bering Tanner East	--	--	--	--	--	--	--	--	66.7	64.7	57.1	60.0	70.8	--	63.2
		Bering Tanner West	--	--	--	--	--	--	--	--	61.9	55.6	55.2	53.7	72.0	--	59.0
	Other Washington	Other Washington															
		Bristol Bay Red	6.6	7.0	6.7	6.3	6.4	7.4	7.8	--	8.0	7.5	5.6	5.3	5.8	6.9	6.5
		Bering Sea Snow	7.0	7.1	6.3	7.5	7.1	8.6	9.8	7.5	5.3	3.1	4.1	2.7	1.5	7.5	3.4

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	Pre-Rationalization Average	Post-Rationalization Average
		Eastern Aleutian Golden	0.0	0.0	0.0	0.0	0.0	5.3	5.3	--	14.3	20.0	0.0	0.0	0.0	1.7	9.5
		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	0.0	0.0	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	2.9	0.0	4.0	4.2	--	2.6
		Bering Tanner West	--	--	--	--	--	--	--	--	2.4	2.8	0.0	2.4	0.0	--	1.7
	Washington Total	Washington Total															
		Bristol Bay Red	62.4	64.1	61.3	62.9	62.4	63.6	65.0	--	63.2	62.5	59.7	61.8	62.3	63.1	62.0
		Bering Sea Snow	62.0	63.5	58.6	63.7	60.4	62.2	66.1	64.6	64.0	61.5	59.5	60.3	58.2	62.5	60.7
		Eastern Aleutian Golden	78.6	73.3	73.3	78.9	78.9	78.9	78.9	--	100.0	100.0	100.0	66.7	66.7	77.5	90.5
		Western Aleutian Golden	50.0	33.3	73.3	54.5	62.5	60.0	66.7	60.0	66.7	50.0	50.0	0.0	0.0	60.3	36.4
		Bering Tanner East	--	--	--	--	--	--	--	--	66.7	67.6	57.1	64.0	75.0	--	65.8
		Bering Tanner West	--	--	--	--	--	--	--	--	64.3	58.3	55.2	56.1	72.0	--	60.7
Oregon	Oregon Total	Oregon Total															
		Bristol Bay Red	5.5	7.0	6.7	7.1	9.0	10.3	9.5	--	12.6	10.0	12.5	9.2	10.1	7.8	10.9
		Bering Sea Snow	5.7	5.8	8.1	7.5	9.3	10.8	8.7	11.2	12.0	12.3	10.8	11.0	9.0	8.2	11.0
		Eastern Aleutian Golden	7.1	6.7	6.7	5.3	0.0	0.0	0.0	--	0.0	0.0	0.0	0.0	0.0	3.3	0.0
		Western Aleutian Golden	20.0	33.3	13.3	18.2	25.0	40.0	33.3	40.0	33.3	50.0	50.0	50.0	50.0	23.8	45.5
		Bering Tanner East	--	--	--	--	--	--	--	--	16.7	11.8	17.9	16.0	12.5	--	14.5
		Bering Tanner West	--	--	--	--	--	--	--	--	19.0	13.9	13.8	14.6	0.0	--	13.3
Other U.S.	Other U.S. Total	Other U.S. Total															
		Bristol Bay Red	2.6	2.7	2.1	1.8	3.4	2.9	2.5	--	2.3	1.3	1.4	1.3	1.4	2.6	1.6
		Bering Sea Snow	2.6	2.9	3.6	1.5	3.3	3.2	2.2	1.2	2.7	1.5	1.4	1.4	1.5	2.6	1.7
		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	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	50.0	0.0	0.0	9.1
		Bering Tanner East	--	--	--	--	--	--	--	--	0.0	0.0	0.0	0.0	0.0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0.0	2.8	0.0	2.4	0.0	--	1.2
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	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	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	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	100.0	100.0	100.0
		Bering Tanner East	--	--	--	--	--	--	--	--	100.0	100.0	100.0	100.0	100.0	--	100.0
		Bering Tanner West	--	--	--	--	--	--	--	--	100.0	100.0	100.0	100.0	100.0	--	100.0

Note: Since 2005 was a transition year, pre- and post-rationalization averages do not include 2005.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

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	2007-2008	2008-2009	2009-2010	Pre-Ration-ization Average	Post-Ration-ization Average	
Alaska	All Subregions (non-Kodiak)	Bristol Bay Red	1,792,102	1,397,002	1,239,342	881,719	1,015,098	1,235,484	1,362,932	--	1,124,109	1,312,674	3,835,071	2,989,421	1,904,291	1,274,811	2,233,113	
		Bering Sea Snow	37,140,331	23,203,155	3,854,814	2,298,590	3,109,422	2,286,083	2,118,063	1,699,836	2,252,932	6,920,749	10,968,227	9,373,507	8,336,328	9,463,787	7,570,349	
		Eastern Aleutian Golden	*	*	*	*	*	*	*	*	--	0	0	0	*	*	**	**
		Western Aleutian Golden	*	0	*	*	0	0	0	0	0	0	0	0	0	*	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	--	*	*	91,519	*	*	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	--	*	63,902	985	982	*	--	**
	Kodiak	Bristol Bay Red	1,792,309	1,451,605	962,367	1,050,569	1,182,725	1,539,454	1,378,634	--	1,433,219	1,431,215	2,335,680	2,933,453	2,194,405	1,336,809	2,065,594	
		Bering Sea Snow	31,865,737	25,383,812	4,006,819	2,883,708	3,339,846	2,757,942	2,303,769	2,934,070	2,424,275	3,405,863	8,979,047	7,675,935	4,453,184	9,434,463	5,387,661	
		Eastern Aleutian Golden	*	*	*	*	*	*	*	--	0	0	0	0	0	0	0	
		Western Aleutian Golden	*	*	*	*	*	0	0	0	0	0	0	0	0	0	0	
		Bering Tanner East	--	--	--	--	--	--	--	--	--	0	145,118	*	224,594	*	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	--	129,441	*	63,351	179	191	--	**
	Alaska Total	Bristol Bay Red	3,584,411	2,848,607	2,201,709	1,932,288	2,197,823	2,774,938	2,741,566	--	2,557,328	2,743,889	6,170,751	5,922,874	4,098,696	2,611,620	4,298,708	
		Bering Sea Snow	69,006,068	48,586,967	7,861,633	5,182,298	6,449,268	5,044,025	4,421,832	4,633,906	4,677,207	10,326,612	19,947,274	17,049,442	12,789,512	18,898,250	12,958,009	
		Eastern Aleutian Golden	**	**	**	**	**	**	**	**	0	0	0	*	**	**	**	
Western Aleutian Golden		**	**	**	**	**	0	0	0	0	0	0	0	**	**	**		
Bering Tanner East		--	--	--	--	--	--	--	--	--	**	**	**	**	**	--		
Bering Tanner West		--	--	--	--	--	--	--	--	--	**	**	64,336	1,161	**	--		
Washington Total	Bristol Bay Red	9,295,164	7,273,095	4,691,308	5,170,313	5,455,236	9,937,680	9,157,359	--	12,330,418	10,038,973	10,811,348	11,368,515	9,848,893	7,282,879	10,879,629		
	Bering Sea Snow	155,232,705	120,481,441	18,232,709	12,856,555	18,414,895	16,692,423	14,442,480	15,022,355	22,988,904	17,471,489	31,438,266	32,004,303	29,647,396	46,421,945	26,710,072		
	Eastern Aleutian Golden	2,156,692	2,191,633	2,036,841	2,429,739	2,283,719	2,365,246	2,216,384	--	2,847,104	2,971,368	*	*	*	2,240,036	**		
	Western Aleutian Golden	560,177	*	782,523	582,116	774,455	*	331,959	*	*	*	*	0	0	378,904	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	38,176	795,419	686,475	723,761	685,985	--	585,963		
	Bering Tanner West	--	--	--	--	--	--	--	--	650,264	280,796	137,643	21,322	2,286	--	218,462		
Oregon and Other U.S. Total***	Bristol Bay Red	1,410,696	1,040,820	580,760	579,919	975,870	1,911,146	1,607,471	--	2,394,868	1,994,298	2,533,890	2,246,049	1,501,263	1,158,097	2,134,074		
	Bering Sea Snow	19,011,427	15,625,377	3,346,504	2,192,444	3,648,171	3,804,820	2,639,811	2,933,784	5,984,815	4,680,150	6,096,037	4,674,107	3,923,966	6,650,292	5,071,815		
	Eastern Aleutian Golden	*	*	*	*	0	0	0	--	0	0	0	0	0	**	**		
	Western Aleutian Golden	*	*	*	*	*	*	*	*	*	*	*	*	*	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	*	463,805	456,105	883,279	*	--			
	Bering Tanner West	--	--	--	--	--	--	--	--	65,881	179,174	44,320	61,553	0	--			
All States Total	Bristol Bay Red	14,290,271	11,162,522	7,473,777	7,682,520	8,628,929	14,623,764	13,506,396	--	17,282,614	14,777,160	19,515,989	19,537,438	15,448,852	11,052,597	17,312,411		
	Bering Sea Snow	243,250,200	184,693,785	29,440,846	20,231,297	28,512,334	25,541,268	21,504,123	22,590,045	33,650,926	32,478,251	57,481,577	53,727,852	46,360,874	71,970,487	44,739,896		
	Eastern Aleutian Golden	**	**	**	**	**	**	**	**	2,847,104	2,971,368	**	**	**	**	**		
	Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	--			
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	246,299	84,036	**	--			

*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 king crab and Bering Sea snow crab.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

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	2007-2008	2008-2009	2009-2010	Pre-Ration- alization Average	Post-Ration- alization Average	
Alaska	All Subregions (non-Kodiak)	Bristol Bay Red	12.5	12.5	16.6	11.5	11.8	8.4	10.1	--	6.5	8.9	19.7	15.3	12.3	11.5	12.9	
		Bering Sea Snow	15.3	12.6	13.1	11.4	10.9	9.0	9.8	7.5	6.7	21.3	19.1	17.4	18.0	13.1	16.9	
		Eastern Aleutian Golden	*	*	*	*	*	*	*	--	0.0	0.0	**	*	*	**	**	
		Western Aleutian Golden	*	**	*	*	**	**	**	**	**	**	**	**	**	*	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	--	*	*	**	*	*	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	--	*	**	0.4	1.2	*	--	**
	Kodiak	Bristol Bay Red	12.5	13.0	12.9	13.7	13.7	10.5	10.2	--	8.3	9.7	12.0	15.0	14.2	12.1	11.9	
		Bering Sea Snow	13.1	13.7	13.6	14.3	11.7	10.8	10.7	13.0	7.2	10.5	15.6	14.3	9.6	13.1	12.0	
		Eastern Aleutian Golden	*	*	*	*	*	*	*	--	0.0	0.0	**	**	**	**	**	
		Western Aleutian Golden	*	*	*	*	*	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	*	**	*	--	**	
		Bering Tanner West	--	--	--	--	--	--	--	--	**	*	25.7	0.2	**	**	--	**
	Alaska Total	Bristol Bay Red	25.1	25.5	29.5	25.2	25.5	19.0	20.3	--	14.8	18.6	31.6	30.3	26.5	23.6	24.8	
		Bering Sea Snow	28.4	26.3	26.7	25.6	22.6	19.7	20.6	20.5	13.9	31.8	34.7	31.7	27.6	26.3	29.0	
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	0.0	0.0	**	**	**	**	**	
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	--	**	
		Bering Tanner West	--	--	--	--	--	--	--	--	**	**	26.1	1.4	**	--	**	
Washington Total	Bristol Bay Red	65.0	65.2	62.8	67.3	63.2	68.0	67.8	--	71.3	67.9	55.4	58.2	63.8	65.9	62.8		
	Bering Sea Snow	63.8	65.2	61.9	63.5	64.6	65.4	67.2	66.5	68.3	53.8	54.7	59.6	63.9	64.5	59.7		
	Eastern Aleutian Golden	**	**	**	**	**	**	**	--	100.0	100.0	*	*	*	**	**		
	Western Aleutian Golden	**	*	**	**	**	*	**	*	*	*	*	*	*	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	--	**		
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	55.9	25.4	**	--	**		
Oregon and Other U.S. Total***	Bristol Bay Red	9.9	9.3	7.8	7.5	11.3	13.1	11.9	--	13.9	13.5	13.0	11.5	9.7	10.5	12.3		
	Bering Sea Snow	7.8	8.5	11.4	10.8	12.8	14.9	12.3	13.0	17.8	14.4	10.6	8.7	8.5	9.2	11.3		
	Eastern Aleutian Golden	*	*	*	*	**	**	**	--	0.0	0.0	**	**	**	**	**		
	Western Aleutian Golden	*	*	*	*	*	*	*	*	*	*	*	*	*	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	*	**		
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	18.0	73.2	**	--	**		
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	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	100.0	100.0	100.0		
	Eastern Aleutian Golden	**	**	**	**	**	**	**	--	100.0	100.0	**	**	**	**	**		
	Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	**	**		
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	100.0	100.0	**	--	**		

*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 king crab and Bering Sea snow crab.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

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	2007-2008	2008-2009	2009-2010	Pre-Ration- alization Average	Post-Ration- alization Average	
Alaska	All Subregions (non-Kodiak)	Bristol Bay Red	\$4,690,345	\$8,689,200	\$5,806,196	\$4,147,027	\$6,207,685	\$6,158,408	\$6,290,567	--	\$4,938,169	\$4,691,906	\$16,384,470	\$14,813,626	\$8,365,022	\$5,998,490	\$9,838,639	
		Bering Sea Snow	\$20,779,096	\$22,605,671	\$7,024,009	\$3,489,905	\$4,199,195	\$4,120,410	\$4,301,769	\$3,031,627	\$2,574,459	\$11,132,509	\$18,526,496	\$12,686,904	\$9,443,404	\$8,693,960	\$10,872,754	
		Eastern Aleutian Golden	*	*	*	*	*	*	*	*	--	\$0	\$0	\$0	\$0	*	**	**
		Western Aleutian Golden	*	\$0	*	*	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	*	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	--	*	*	\$140,616	*	*	--	**
		Bering Tanner West	--	--	--	--	--	--	--	--	--	*	\$103,992	\$1,313	\$992	*	--	**
		Kodiak	Bristol Bay Red	\$4,671,189	\$9,008,396	\$4,573,231	\$4,905,921	\$7,308,293	\$7,712,814	\$6,492,317	--	\$6,448,136	\$5,384,367	\$10,247,318	\$14,540,295	\$9,684,746	\$6,381,737	\$9,260,972
		Bering Sea Snow	\$17,881,085	\$24,770,473	\$7,479,304	\$4,426,833	\$4,502,613	\$4,665,518	\$4,747,705	\$5,265,123	\$2,780,090	\$5,412,634	\$14,802,524	\$10,373,197	\$4,819,588	\$9,217,332	\$7,637,606	
		Eastern Aleutian Golden	*	*	*	*	*	*	*	--	\$0	\$0	\$0	\$0	\$0	\$0	**	\$0
		Western Aleutian Golden	*	*	*	*	*	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	**	\$0
Bering Tanner East	--	--	--	--	--	--	--	--	--	\$0	\$231,228	*	\$329,988	*	--	**		
Bering Tanner West	--	--	--	--	--	--	--	--	--	\$169,398	*	\$109,353	\$0	\$287	--	**		
Alaska Total	Bristol Bay Red	\$9,361,534	\$17,697,596	\$10,379,427	\$9,052,947	\$13,515,978	\$13,871,222	\$12,782,884	--	\$11,386,305	\$10,076,273	\$26,631,788	\$29,353,921	\$18,049,768	\$12,380,227	\$19,099,611		
	Bering Sea Snow	\$38,660,181	\$47,376,143	\$14,503,312	\$7,916,738	\$8,701,808	\$8,785,927	\$9,049,475	\$8,296,750	\$5,354,549	\$16,545,142	\$33,329,020	\$23,060,101	\$14,262,991	\$17,911,292	\$18,510,361		
	Eastern Aleutian Golden	**	**	**	**	**	**	**	**	\$0	\$0	\$0	\$0	**	**	**		
	Western Aleutian Golden	**	**	**	**	**	**	\$0	\$0	\$0	\$0	\$0	\$0	**	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	**	**		
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	\$110,666	\$992	**	**	**		
Washington Total	Bristol Bay Red	\$24,266,529	\$45,171,619	\$21,999,225	\$24,304,998	\$33,401,452	\$49,764,364	\$42,516,948	--	\$53,806,672	\$36,508,676	\$46,458,180	\$56,523,529	\$43,326,138	\$34,489,305	\$47,324,639		
	Bering Sea Snow	\$86,501,482	\$117,114,293	\$33,294,146	\$19,454,658	\$24,855,787	\$30,008,997	\$29,273,387	\$26,941,853	\$26,353,343	\$28,097,591	\$53,000,059	\$43,437,489	\$33,486,822	\$45,930,575	\$36,875,061		
	Eastern Aleutian Golden	\$3,998,176	\$6,630,860	\$6,967,955	\$7,738,490	\$7,780,872	\$8,254,925	\$6,968,816	--	\$7,604,877	\$5,635,266	*	*	\$6,905,728	**			
	Western Aleutian Golden	\$1,012,827	*	\$2,359,147	\$1,854,246	\$2,490,340	*	\$1,136,272	*	*	*	\$0	\$0	**	**			
	Bering Tanner East	--	--	--	--	--	--	--	--	\$57,524	\$1,237,873	\$1,137,126	\$1,146,790	\$1,078,405	--	\$931,544		
	Bering Tanner West	--	--	--	--	--	--	--	--	\$970,574	\$411,570	\$222,423	\$30,321	\$3,430	--	\$327,664		
Oregon and Other U.S. Total***	Bristol Bay Red	\$3,685,700	\$6,465,572	\$2,750,410	\$2,725,869	\$6,049,571	\$9,544,944	\$7,471,043	--	\$10,568,836	\$7,341,682	\$10,821,630	\$11,064,851	\$6,532,990	\$5,527,587	\$9,265,998		
	Bering Sea Snow	\$10,628,492	\$15,239,082	\$6,132,597	\$3,341,116	\$4,959,222	\$6,881,263	\$5,366,853	\$5,253,908	\$6,801,116	\$7,404,238	\$10,233,035	\$6,337,750	\$4,441,719	\$7,225,317	\$7,043,572		
	Eastern Aleutian Golden	*	*	*	*	\$0	\$0	\$0	--	\$0	\$0	\$0	\$0	\$0	**	\$0		
	Western Aleutian Golden	*	*	*	*	*	*	*	*	*	*	*	*	*	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	*	\$745,378	\$734,114	\$1,397,515	*	**			
	Bering Tanner West	--	--	--	--	--	--	--	--	\$83,398	\$311,970	\$81,474	\$87,500	\$0	--	\$112,869		
All States Total	Bristol Bay Red	\$37,313,764	\$69,334,788	\$35,129,062	\$36,083,814	\$52,967,001	\$73,180,530	\$62,770,874	--	\$75,761,813	\$53,926,631	\$83,911,598	\$96,942,301	\$67,908,896	\$52,397,119	\$75,690,248		
	Bering Sea Snow	\$135,790,155	\$179,729,517	\$53,930,055	\$30,712,512	\$38,516,817	\$45,676,188	\$43,689,714	\$40,492,511	\$38,509,008	\$52,046,972	\$96,562,114	\$72,835,340	\$52,191,532	\$71,067,184	\$62,428,993		
	Eastern Aleutian Golden	**	**	**	**	**	**	**	**	\$7,604,877	\$5,635,266	**	**	**	**			
	Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**	**	**			
	Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	**			
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	\$414,563	\$118,813	**	**			

*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 king crab and Bering Sea snow crab.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

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	2007-2008	2008-2009	2009-2010	Pre-Ration-ization Average	Post-Ration-ization Average	
Alaska	All Subregions (non-Kodiak)	Bristol Bay Red	12.6	12.5	16.5	11.5	11.7	8.4	10.0	--	6.5	8.7	19.5	15.3	12.3	11.4	13.0	
		Bering Sea Snow	15.3	12.6	13.0	11.4	10.9	9.0	9.8	7.5	6.7	21.4	19.2	17.4	18.1	12.2	17.4	
		Eastern Aleutian Golden	*	*	*	*	*	*	*	--	0.0	0.0	**	*	*	**	**	
		Western Aleutian Golden	*	**	*	*	**	**	**	**	**	**	**	**	*	*	**	**
		Bering Tanner East	--	--	--	--	--	--	--	--	*	*	**	*	*	--	**	
		Bering Tanner West	--	--	--	--	--	--	--	--	*	**	0.3	0.8	*	--	**	
		Kodiak	Bristol Bay Red	12.5	13.0	13.0	13.6	13.8	10.5	10.3	--	8.5	10.0	12.2	15.0	14.3	12.2	12.2
	Bering Sea Snow	13.2	13.8	13.9	14.4	11.7	10.2	10.9	13.0	7.2	10.4	15.3	14.2	9.2	13.0	12.2		
	Eastern Aleutian Golden	*	*	*	*	*	*	*	--	0.0	0.0	**	**	**	**	**	**	
	Western Aleutian Golden	*	*	*	*	*	**	**	**	**	**	**	**	**	**	**	**	
	Bering Tanner East	--	--	--	--	--	--	--	--	**	**	*	**	*	--	**		
	Bering Tanner West	--	--	--	--	--	--	--	--	**	*	26.4	0.0	**	**	**		
	Alaska Total	Bristol Bay Red	25.1	25.5	29.5	25.1	25.5	19.0	20.4	--	15.0	18.7	31.7	30.3	26.6	23.6	25.2	
		Bering Sea Snow	28.5	26.4	26.9	25.8	22.6	19.2	20.7	20.5	13.9	31.8	34.5	31.7	27.3	25.2	29.7	
		Eastern Aleutian Golden	**	**	**	**	**	**	**	--	0.0	0.0	**	**	**	**	**	
		Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	
		Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	--	**	
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	26.7	0.8	**	--	**		
Washington Total	Bristol Bay Red	65.0	65.2	62.6	67.4	63.1	68.0	67.7	--	71.0	67.7	55.4	58.3	63.8	65.8	62.5		
	Bering Sea Snow	63.7	65.2	61.7	63.3	64.5	65.7	67.0	66.5	68.4	54.0	54.9	59.6	64.2	64.6	59.1		
	Eastern Aleutian Golden	**	**	**	**	**	**	**	--	100.0	100.0	*	*	*	**	**		
	Western Aleutian Golden	**	*	**	**	**	*	**	*	*	*	**	**	**	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	--	**		
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	53.7	25.5	**	--	**		
Oregon and Other U.S. Total***	Bristol Bay Red	9.9	9.3	7.8	7.6	11.4	13.0	11.9	--	14.0	13.6	12.9	11.4	9.6	10.5	12.2		
	Bering Sea Snow	7.8	8.5	11.4	10.9	12.9	15.1	12.3	13.0	17.7	14.2	10.6	8.7	8.5	10.2	11.3		
	Eastern Aleutian Golden	*	*	*	*	**	**	**	--	0.0	0.0	**	**	**	**	**		
	Western Aleutian Golden	*	*	*	*	*	*	*	*	*	*	*	*	*	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	*	**	**	**	*	--	**		
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	19.7	73.6	**	--	**		
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	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	100.0	100.0	100.0		
	Eastern Aleutian Golden	**	**	**	**	**	**	**	--	100.0	100.0	**	**	**	**	**		
	Western Aleutian Golden	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**		
	Bering Tanner East	--	--	--	--	--	--	--	--	**	**	**	**	**	--	**		
	Bering Tanner West	--	--	--	--	--	--	--	--	**	**	100.0	100.0	**	--	**		

*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 king crab and Bering Sea snow crab.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

Table A1-5a. BSAI Crab Vessel Harvest Diversity by Volume

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Pre-Rationalization Average (1998–2004)	Post-Rationalization Average (2006–2009)
Alaska	All Subregions (non-Kodiak)	Rationalized Crab	39,287,494	24,746,880	5,322,764	3,460,700	4,296,172	3,715,069	3,662,607	2,823,945	3,608,325	10,916,853	15,109,516	12,321,442	12,070,241	10,489,034
		Non-Rationalized Crab	1,588,677	3,063,413	987,637	1,203,591	1,214,074	590,943	5,284	140,892	132,726	503,268	15,557	595,862	1,236,231	311,853
		Groundfish	14,121,173	13,309,918	16,799,918	10,660,673	9,676,260	8,484,117	7,050,947	10,401,336	11,030,491	10,275,691	5,466,362	7,961,017	11,443,287	8,683,390
		Salmon	2,342,622	2,664,024	1,027,815	651,506	326,111	2,057,631	4,619,647	3,791,770	2,389,695	4,174,047	3,119,173	2,074,465	1,955,622	2,939,345
		Herring	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Halibut	591,911	635,853	617,024	753,621	758,127	522,931	382,448	469,910	456,863	706,909	737,149	0	608,845	475,230
		Other Species	6,039	53,959	8,417	2,457	17,572	408	50,168	33,139	20,918	25,631	24,584	1,119,042	19,860	297,544
	Kodiak	Rationalized Crab	35,174,702	28,340,110	5,403,201	4,361,277	4,940,745	4,715,703	4,171,224	4,470,493	3,882,003	5,898,323	12,291,297	10,099,225	12,443,852	8,042,712
		Non-Rationalized Crab	755,081	1,968,424	585,059	673,410	98,544	157,620	128,355	145,914	187,068	92,600	81,661	62,106	623,785	105,859
		Groundfish	42,822,468	45,502,125	45,393,649	52,302,515	57,500,659	59,768,766	66,365,842	60,282,569	58,513,850	50,127,985	41,052,834	35,450,856	52,808,003	46,286,381
		Salmon	0	0	0	0	0	0	3,453,801	0	2,318,471	538,340	546	1,756	493,400	714,778
		Herring	54,429	0	0	0	0	0	0	0	0	0	0	0	7,776	0
		Halibut	2,657,040	2,643,041	2,660,169	2,712,585	2,555,124	2,311,990	2,367,506	1,942,089	1,594,718	1,412,619	1,559,962	0	2,558,208	1,141,825
		Other Species	53,819	50,956	39,443	63,858	103,405	103,526	315,786	157,803	360,477	118,436	83,879	1,608,164	104,399	542,739
	Alaska Total	Rationalized Crab	74,462,196	53,086,990	10,725,965	7,821,977	9,236,917	8,430,772	7,833,831	7,294,438	7,490,328	16,815,176	27,400,813	22,420,667	24,514,093	18,531,746
		Non-Rationalized Crab	2,343,758	5,031,837	1,572,696	1,877,001	1,312,618	748,563	133,639	286,806	319,794	595,868	97,218	657,968	1,860,016	417,712
		Groundfish	56,943,641	58,812,043	62,193,567	62,963,188	67,176,919	68,252,883	73,416,789	70,683,905	69,544,341	60,403,676	46,519,196	43,411,873	64,251,290	54,969,772
	Salmon	2,342,622	2,664,024	1,027,815	651,506	326,111	2,057,631	8,073,448	3,791,770	4,708,166	4,712,387	3,119,719	2,076,221	2,449,022	3,654,123	
	Herring	54,429	0	0	0	0	0	0	0	0	0	0	0	7,776	0	
	Halibut	3,248,951	3,278,894	3,277,193	3,466,206	3,313,251	2,834,921	2,749,954	2,411,999	2,051,581	2,119,528	2,297,111	0	3,167,053	1,617,055	
	Other Species	59,858	104,915	47,860	66,315	120,977	103,934	365,954	190,942	381,395	144,067	108,463	2,727,206	124,259	840,283	
Washington Total	Rationalized Crab	167,171,451	130,266,223	25,600,498	21,324,490	26,620,175	29,365,702	26,145,667	30,727,790	37,376,209	31,990,659	45,752,275	45,314,434	60,927,744	40,108,394	
	Non-Rationalized Crab	4,842,592	5,311,123	1,814,800	1,077,938	2,051,656	1,829,984	3,160,461	1,952,105	219,320	463,134	166,739	141,938	2,869,793	247,783	
	Groundfish	484,871,983	497,895,643	596,851,572	664,485,342	690,055,375	672,734,524	699,944,987	704,028,330	736,275,546	645,499,208	499,605,570	413,617,209	615,262,775	573,749,383	
	Salmon	0	0	358	487,571	0	0	2,472,467	1,782,960	1,125,001	1,353,481	1,051,387	1,829,405	422,914	1,339,819	
	Herring	0	0	0	0	0	2,496	0	0	0	0	0	0	357	0	
	Halibut	47,760	74,536	0	60,896	139,511	257,413	297,667	272,551	434,528	518,306	477,271	0	125,398	357,526	
	Other Species	593,776	95,153	108,246	548,820	498,265	513,181	576,035	1,151,710	626,443	1,007,538	1,058,201	818,202	419,068	877,596	
Oregon and Other U.S. Total***	Rationalized Crab	21,494,994	17,746,639	5,562,359	4,219,575	6,056,416	7,540,108	6,255,627	6,180,193	8,911,816	8,472,588	10,005,169	8,124,885	9,839,388	8,878,615	
	Non-Rationalized Crab	356,051	444,379	0	75,628	698,386	172,841	204,220	127,010	399,421	141,786	977,723	443,896	278,786	490,707	
	Groundfish	39,530,453	49,691,366	51,687,025	58,897,564	63,457,167	69,914,682	72,607,424	74,705,560	69,403,423	54,046,537	49,328,800	35,879,924	57,969,383	52,164,671	
	Salmon	0	1,007	0	0	0	0	0	0	0	0	0	0	144	0	
	Herring	0	0	0	0	0	100,260	0	0	0	0	0	0	14,323	0	
	Halibut	1,292,644	1,590,032	2,028,920	1,857,582	2,292,395	2,351,216	2,056,941	1,834,296	1,482,845	1,334,097	975,973	0	1,924,247	948,229	
	Other Species	40,095	23,063	18,285	206,051	68,161	135,466	264,441	388,438	238,013	78,029	105,249	1,311,666	107,937	433,239	
All States Total	Rationalized Crab	263,128,641	201,099,852	41,888,822	33,366,042	41,913,508	45,336,582	40,235,125	44,202,421	53,778,353	57,278,423	83,158,257	75,859,986	95,281,225	67,518,755	
	Non-Rationalized Crab	7,542,401	10,787,339	3,387,496	3,030,567	4,062,660	2,751,388	3,498,320	2,365,921	938,535	1,200,788	1,241,680	1,243,802	5,008,596	1,156,201	
	Groundfish	581,346,077	606,399,052	710,732,164	786,346,094	820,689,461	810,902,089	845,969,200	849,417,795	875,223,310	759,949,421	595,453,566	492,909,006	737,483,448	680,883,826	
	Salmon	2,342,622	2,665,031	1,028,173	1,139,077	326,111	2,057,631	10,545,915	5,574,730	5,833,167	6,065,868	4,171,106	3,905,626	2,872,080	4,993,942	
	Herring	54,429	0	0	0	0	102,756	0	0	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	3,968,954	3,971,931	3,750,355	0	5,216,698	2,922,810	
	Other Species	693,729	223,131	174,391	821,186	687,403	752,581	1,206,430	1,731,090	1,245,851	1,229,634	1,271,913	4,857,074	651,264	2,151,118	

***Oregon and Other U.S. combined to allow for display of otherwise confidential data.
 Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

Table A1-5b. BSAI Crab Vessel Harvest Diversity by Volume (percentage)

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Pre-Ration- alization Average (1998–2004)	Post-Ration- alization Average (2006–2009)
Alaska	All Subregions (non-Kodiak)	Rationalized Crab	67.8	55.6	21.5	20.7	26.4	24.2	23.2	16.0	20.5	41.0	61.7	51.2	44.2	45.2
		Non-Rationalized Crab	2.7	6.9	4.0	7.2	7.5	3.8	0.0	0.8	0.8	1.9	0.1	2.5	4.5	1.3
		Groundfish	24.4	29.9	67.8	63.7	59.4	55.2	44.7	58.9	62.5	38.6	22.3	33.1	41.9	37.4
		Salmon	4.0	6.0	4.2	3.9	2.0	13.4	29.3	21.5	13.5	15.7	12.7	8.6	7.2	12.7
		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	0.0	0.0
		Halibut	1.0	1.4	2.5	4.5	4.7	3.4	2.4	2.7	2.6	2.7	3.0	0.0	2.2	2.0
		Other Species	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.2	0.1	0.1	0.1	0.1	4.6	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	100.0	100.0	100.0
	Kodiak	Rationalized Crab	43.1	36.1	10.0	7.3	7.6	7.0	5.4	6.7	5.8	10.1	22.3	21.4	18.0	14.2
		Non-Rationalized Crab	0.9	2.5	1.1	1.1	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.9	0.2
		Groundfish	52.5	58.0	83.9	87.0	88.2	89.1	86.4	90.0	87.5	86.1	74.5	75.1	76.5	81.4
		Salmon	0.0	0.0	0.0	0.0	0.0	0.0	4.5	0.0	3.5	0.9	0.0	0.0	0.7	1.3
		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	0.0	0.0
		Halibut	3.3	3.4	4.9	4.5	3.9	3.4	3.1	2.9	2.4	2.4	2.8	0.0	3.7	2.0
Other Species		0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.2	0.5	0.2	0.2	0.2	3.4	0.2	1.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Alaska Total	Rationalized Crab	53.4	43.2	13.6	10.2	11.3	10.2	8.5	8.6	8.9	19.8	34.4	31.4	25.4	23.2	
	Non-Rationalized Crab	1.7	4.1	2.0	2.4	1.6	0.9	0.1	0.3	0.4	0.7	0.1	0.9	1.9	0.5	
	Groundfish	40.8	47.8	78.9	81.9	82.4	82.8	79.3	83.5	82.3	71.2	58.5	60.9	66.7	68.7	
	Salmon	1.7	2.2	1.3	0.8	0.4	2.5	8.7	4.5	5.6	5.6	3.9	2.9	2.5	4.6	
	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	0.0	0.0	
	Halibut	2.3	2.7	4.2	4.5	4.1	3.4	3.0	2.8	2.4	2.5	2.9	0.0	3.3	2.0	
	Other Species	0.0	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.5	0.2	0.1	3.8	0.1	1.0	
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Washington Total	Rationalized Crab	25.4	20.6	4.1	3.1	3.7	4.2	3.6	4.2	4.8	4.7	8.3	9.8	9.0	6.5	
	Non-Rationalized Crab	0.7	0.8	0.3	0.2	0.3	0.3	0.4	0.3	0.0	0.1	0.0	0.0	0.4	0.0	
	Groundfish	73.7	78.6	95.6	96.6	95.9	95.5	95.5	95.1	94.9	94.8	91.2	89.6	90.5	93.0	
	Salmon	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.2	0.1	0.2	0.2	0.4	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	0.0	0.0	
	Halibut	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	
	Other Species	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	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	100.0	100.0	100.0	
Oregon and Other U.S. Total***	Rationalized Crab	34.3	25.5	9.4	6.5	8.3	9.4	7.7	7.4	11.1	13.2	16.3	17.8	14.0	14.1	
	Non-Rationalized Crab	0.6	0.6	0.0	0.1	1.0	0.2	0.3	0.2	0.5	0.2	1.6	1.0	0.4	0.8	
	Groundfish	63.0	71.5	87.2	90.3	87.4	87.2	89.2	89.8	86.3	84.4	80.3	78.4	82.7	82.9	
	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	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	0.0	0.0	
	Halibut	2.1	2.3	3.4	2.8	3.2	2.9	2.5	2.2	1.8	2.1	1.6	0.0	2.7	1.5	
	Other Species	0.1	0.0	0.0	0.3	0.1	0.2	0.3	0.5	0.3	0.1	0.2	2.9	0.2	0.7	
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Pre-Ration- alization Average (1998–2004)	Post-Ration- alization Average (2006–2009)
All States Total		Rationalized Crab	30.6	24.3	5.5	4.0	4.8	5.2	4.4	4.9	5.7	6.9	12.1	13.1	11.3	8.9
		Non-Rationalized Crab	0.9	1.3	0.4	0.4	0.5	0.3	0.4	0.3	0.1	0.1	0.2	0.2	0.6	0.2
		Groundfish	67.6	73.4	93.2	94.7	94.0	93.5	93.3	93.6	93.0	91.6	86.4	85.2	87.1	89.6
		Salmon	0.3	0.3	0.1	0.1	0.0	0.2	1.2	0.6	0.6	0.7	0.6	0.7	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	0.0	0.0
		Halibut	0.5	0.6	0.7	0.6	0.7	0.6	0.6	0.5	0.4	0.5	0.5	0.0	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	0.2	0.8	0.1	0.3
		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	100.0	100.0

***Oregon and Other U.S. combined to allow for display of otherwise confidential data.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

Table A1-6a. BSAI Crab Vessel Harvest Diversity by Value

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Pre-Ration- alization Average (1998-2004)	Post- Ration- alization Average (2006-2009)
Alaska	All Subregions (non-Kodiak)	Rationalized Crab	\$26,109,738	\$31,736,902	\$13,599,867	\$8,525,988	\$10,989,232	\$10,958,820	\$11,167,887	\$7,969,796	\$7,326,500	\$27,771,180	\$37,554,709	\$23,036,653	\$16,155,491	\$23,922,261
		Non-Rationalized Crab	\$2,409,053	\$3,847,095	\$2,150,358	\$2,372,997	\$3,785,897	\$1,457,081	\$15,349	\$182,426	\$189,016	\$1,234,376	\$31,325	\$1,216,900	\$2,291,119	\$667,904
		Groundfish	\$1,758,629	\$2,487,145	\$4,394,765	\$1,959,004	\$2,032,127	\$1,994,342	\$1,733,555	\$2,132,660	\$3,274,050	\$4,324,018	\$4,666,199	\$4,168,984	\$2,337,081	\$4,108,313
		Salmon	\$671,545	\$1,106,089	\$349,324	\$83,018	\$83,602	\$192,463	\$434,390	\$451,707	\$439,258	\$888,981	\$1,121,527	\$500,292	\$417,204	\$737,514
		Herring	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		Halibut	\$676,253	\$1,236,054	\$1,537,996	\$1,465,676	\$1,720,525	\$1,482,328	\$1,135,784	\$1,423,655	\$1,684,337	\$2,940,283	\$3,139,277	\$0	\$1,322,088	\$1,940,974
		Other Species	\$333	\$19,281	\$2,781	\$33	\$1,647	\$5	\$27,394	\$16,019	\$6,352	\$10,153	\$6,495	\$2,636,434	\$7,353	\$664,859
	Kodiak	Rationalized Crab	\$25,382,882	\$38,417,264	\$13,486,215	\$10,682,557	\$13,231,928	\$13,829,878	\$12,762,338	\$11,842,200	\$8,205,205	\$15,911,922	\$30,001,715	\$20,310,448	\$18,256,152	\$18,607,322
		Non-Rationalized Crab	\$1,441,294	\$2,552,594	\$1,453,706	\$2,026,032	\$484,206	\$521,638	\$151,211	\$294,614	\$300,822	\$190,103	\$176,041	\$143,446	\$1,232,954	\$202,603
		Groundfish	\$5,903,408	\$9,683,446	\$9,573,544	\$7,625,498	\$8,434,973	\$9,006,071	\$10,116,402	\$11,857,533	\$13,232,276	\$11,657,201	\$13,228,320	\$7,000,384	\$8,620,478	\$11,279,545
		Salmon	\$0	\$0	\$0	\$0	\$0	\$0	\$262,544	\$0	\$520,642	\$120,203	\$1,652	\$2,917	\$37,506	\$161,353
		Herring	\$11,485	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,641	\$0
		Halibut	\$3,195,859	\$5,447,975	\$6,667,996	\$5,358,624	\$5,703,220	\$6,639,898	\$7,009,938	\$5,788,210	\$6,098,194	\$6,079,726	\$6,601,077	\$0	\$5,717,644	\$4,694,749
		Other Species	\$14,229	\$7,314	\$3,532	\$55,070	\$36,019	\$42,678	\$148,743	\$42,610	\$79,646	\$31,499	\$26,796	\$3,577,463	\$43,941	\$928,851
	Alaska Total	Rationalized Crab	\$51,492,620	\$70,154,167	\$27,086,082	\$19,208,544	\$24,221,160	\$24,788,698	\$23,930,225	\$19,811,996	\$15,531,706	\$43,683,102	\$67,556,424	\$43,347,101	\$34,411,642	\$42,529,583
		Non-Rationalized Crab	\$3,850,347	\$6,399,689	\$3,604,064	\$4,399,028	\$4,270,104	\$1,978,719	\$166,560	\$477,040	\$489,839	\$1,424,479	\$207,366	\$1,360,345	\$3,524,073	\$870,507
		Groundfish	\$7,662,037	\$12,170,591	\$13,968,309	\$9,584,502	\$10,467,100	\$11,000,413	\$11,849,957	\$13,990,193	\$16,506,326	\$15,981,219	\$17,894,519	\$11,169,368	\$10,957,558	\$15,387,858
Salmon		\$671,545	\$1,106,089	\$349,324	\$83,018	\$83,602	\$192,463	\$696,934	\$451,707	\$959,900	\$1,009,184	\$1,123,178	\$503,209	\$454,711	\$898,868	
Herring		\$11,485	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,641	\$0	
Halibut		\$3,872,113	\$6,684,030	\$8,205,992	\$6,824,300	\$7,423,745	\$8,122,226	\$8,145,722	\$7,211,865	\$7,782,531	\$9,020,009	\$9,740,354	\$0	\$7,039,733	\$6,635,723	
Other Species		\$14,563	\$26,595	\$6,313	\$55,103	\$37,665	\$42,682	\$176,137	\$58,629	\$85,998	\$41,652	\$33,291	\$6,213,898	\$51,294	\$1,593,710	
Washington Total	Rationalized Crab	\$115,623,176	\$169,744,081	\$64,360,527	\$54,230,756	\$67,599,367	\$89,300,610	\$79,785,960	\$89,464,764	\$70,677,138	\$82,237,662	\$118,563,566	\$93,499,611	\$91,520,640	\$91,244,494	
	Non-Rationalized Crab	\$6,808,979	\$7,906,355	\$4,727,401	\$2,664,816	\$6,217,784	\$4,563,940	\$9,140,151	\$5,252,195	\$980,554	\$1,578,720	\$736,022	\$735,915	\$6,004,204	\$1,007,803	
	Groundfish	\$33,895,898	\$54,196,387	\$77,970,851	\$68,259,082	\$79,672,340	\$80,549,385	\$79,755,827	\$92,784,851	\$108,227,316	\$100,791,907	\$115,676,054	\$65,899,937	\$67,757,110	\$97,648,803	
	Salmon	\$0	\$0	\$134	\$66,508	\$0	\$0	\$187,907	\$418,307	\$271,846	\$348,935	\$398,590	\$442,921	\$36,364	\$365,573	
	Herring	\$0	\$0	\$0	\$0	\$0	\$130	\$0	\$0	\$0	\$0	\$0	\$0	\$19	\$0	
	Halibut	\$53,142	\$158,070	\$0	\$118,747	\$306,717	\$736,653	\$851,799	\$788,468	\$1,633,594	\$2,228,583	\$1,890,055	\$0	\$317,875	\$1,438,058	
	Other Species	\$28,640	\$14,167	\$4,011	\$10,608	\$6,679	\$58,358	\$86,041	\$54,971	\$36,404	\$29,680	\$44,668	\$1,273,609	\$29,786	\$346,090	
Oregon and Other U.S. Total***	Rationalized Crab	\$16,271,089	\$24,992,267	\$14,477,685	\$10,671,900	\$15,860,150	\$22,704,635	\$19,124,099	\$18,004,284	\$15,905,095	\$20,569,133	\$25,358,572	\$16,687,965	\$17,728,832	\$19,630,191	
	Non-Rationalized Crab	\$705,326	\$434,432	\$0	\$336,589	\$2,043,967	\$689,171	\$385,116	\$246,361	\$798,160	\$285,305	\$2,420,015	\$718,364	\$656,372	\$1,055,461	
	Groundfish	\$4,272,012	\$6,488,496	\$8,664,833	\$7,680,275	\$8,630,805	\$11,315,070	\$10,290,946	\$12,667,456	\$13,410,331	\$11,644,001	\$14,995,871	\$6,404,912	\$8,191,777	\$11,613,779	
	Salmon	\$0	\$842	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$120	\$0	
	Herring	\$0	\$0	\$0	\$0	\$0	\$0	\$22,759	\$0	\$0	\$0	\$0	\$0	\$3,251	\$0	
	Halibut	\$1,505,812	\$3,204,846	\$5,057,557	\$3,649,545	\$5,026,658	\$6,757,358	\$6,032,532	\$5,459,687	\$5,625,415	\$5,737,411	\$4,009,332	\$0	\$4,462,044	\$3,843,039	
	Other Species	\$4,008	\$3,972	\$1,227	\$2,114	\$12,014	\$46,412	\$149,244	\$150,632	\$77,299	\$25,826	\$38,604	\$2,933,102	\$31,284	\$768,708	
All States Total	Rationalized Crab	\$183,386,885	\$264,890,514	\$105,924,294	\$84,111,200	\$107,680,678	\$136,793,943	\$122,840,285	\$127,281,043	\$102,113,939	\$146,489,898	\$211,478,562	\$153,534,676	\$143,661,114	\$153,404,269	
	Non-Rationalized Crab	\$11,364,651	\$14,740,476	\$8,331,465	\$7,400,433	\$12,531,855	\$7,231,831	\$9,691,827	\$5,975,595	\$2,268,553	\$3,288,504	\$3,363,403	\$2,814,624	\$10,184,649	\$2,933,771	
	Groundfish	\$45,829,947	\$72,855,474	\$100,603,993	\$85,523,860	\$98,770,246	\$102,864,868	\$101,896,730	\$119,442,500	\$138,143,973	\$128,417,127	\$148,566,444	\$83,474,216	\$86,906,445	\$124,650,440	
	Salmon	\$671,545	\$1,106,931	\$349,458	\$149,526	\$83,602	\$192,463	\$884,841	\$870,014	\$1,231,746	\$1,358,118	\$1,521,768	\$946,130	\$491,195	\$1,264,441	
	Herring	\$11,485	\$0	\$0	\$0	\$0	\$0	\$22,889	\$0	\$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	\$15,041,539	\$16,986,002	\$15,639,741	\$0	\$11,819,652	\$11,916,821	
	Other Species	\$47,211	\$44,734	\$11,551	\$67,826	\$56,358	\$147,452	\$411,422	\$264,232	\$199,700	\$97,158	\$116,564	\$10,420,609	\$112,365	\$2,708,508	

***Oregon and Other U.S. combined to allow for display of otherwise confidential data.
Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

Table A1-6b. BSAI Crab Vessel Harvest Diversity by Value (percentage)

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Pre-Ration- alization Average (1998–2004)	Post-Ration- alization Average (2006–2009)	
Alaska	All Subregions (non-Kodiak)	Rationalized Crab	82.6	78.5	61.7	59.2	59.0	68.1	76.9	65.5	56.7	74.7	80.7	73.0	71.7	74.7	
		Non-Rationalized Crab	7.6	9.5	9.8	16.5	20.3	9.1	0.1	1.5	1.5	3.3	0.1	3.9	10.2	2.1	
		Groundfish	5.6	6.2	19.9	13.6	10.9	12.4	11.9	17.5	25.3	11.6	10.0	13.2	10.4	12.8	
		Salmon	2.1	2.7	1.6	0.6	0.4	1.2	3.0	3.7	3.4	2.4	2.4	1.6	1.9	2.3	
		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	0.0	0.0	
		Halibut	2.1	3.1	7.0	10.2	9.2	9.2	7.8	11.7	13.0	7.9	6.7	0.0	5.9	6.1	
		Other Species	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	8.4	0.0	2.1
		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	100.0	100.0	100.0
	Kodiak	Rationalized Crab	70.6	68.5	43.2	41.5	47.4	46.0	41.9	39.7	28.9	46.8	60.0	65.4	53.8	51.9	
		Non-Rationalized Crab	4.0	4.5	4.7	7.9	1.7	1.7	0.5	1.0	1.1	0.6	0.4	0.5	3.6	0.6	
		Groundfish	16.4	17.3	30.7	29.6	30.2	30.0	33.2	39.8	46.5	34.3	26.4	22.6	25.4	31.4	
		Salmon	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	1.8	0.4	0.0	0.0	0.1	0.4	
		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	0.0	0.0	
		Halibut	8.9	9.7	21.4	20.8	20.4	22.1	23.0	19.4	21.4	17.9	13.2	0.0	16.9	13.1	
		Other Species	0.0	0.0	0.0	0.2	0.1	0.1	0.5	0.1	0.3	0.1	0.1	11.5	0.1	2.6	
		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	100.0	100.0	100.0
	Alaska Total	Rationalized Crab	76.2	72.7	50.9	47.8	52.1	53.7	53.2	47.2	37.6	61.4	70.0	69.3	61.0	62.6	
		Non-Rationalized Crab	5.7	6.6	6.8	11.0	9.2	4.3	0.4	1.1	1.2	2.0	0.2	2.2	6.2	1.3	
		Groundfish	11.3	12.6	26.2	23.9	22.5	23.8	26.4	33.3	39.9	22.5	18.5	17.8	19.4	22.7	
Salmon		1.0	1.1	0.7	0.2	0.2	0.4	1.5	1.1	2.3	1.4	1.2	0.8	0.8	1.3		
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	0.0	0.0		
Halibut		5.7	6.9	15.4	17.0	16.0	17.6	18.1	17.2	18.8	12.7	10.1	0.0	12.5	9.8		
Other Species		0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.1	0.2	0.1	0.0	9.9	0.1	2.3		
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	100.0	100.0	100.0	
Washington Total	Rationalized Crab	73.9	73.2	43.8	43.3	44.0	51.0	47.0	47.4	38.9	43.9	50.0	57.8	55.2	47.5		
	Non-Rationalized Crab	4.4	3.4	3.2	2.1	4.0	2.6	5.4	2.8	0.5	0.8	0.3	0.5	3.6	0.5		
	Groundfish	21.7	23.4	53.0	54.5	51.8	46.0	47.0	49.2	59.5	53.8	48.7	40.7	40.9	50.8		
	Salmon	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.3	0.0	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	0.0	0.0		
	Halibut	0.0	0.1	0.0	0.1	0.2	0.4	0.5	0.4	0.9	1.2	0.8	0.0	0.2	0.7		
	Other Species	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.8	0.0	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	100.0	100.0	100.0	
Oregon and Other U.S. Total***	Rationalized Crab	71.5	71.2	51.3	47.8	50.2	54.7	53.1	49.3	44.4	53.8	54.2	62.4	57.1	53.2		
	Non-Rationalized Crab	3.1	1.2	0.0	1.5	6.5	1.7	1.1	0.7	2.2	0.7	5.2	2.7	2.1	2.9		
	Groundfish	18.8	18.5	30.7	34.4	27.3	27.2	28.6	34.7	37.4	30.4	32.0	23.9	26.4	31.5		
	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	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	0.0	0.0		
	Halibut	6.6	9.1	17.9	16.3	15.9	16.3	16.8	14.9	15.7	15.0	8.6	0.0	14.4	10.4		
	Other Species	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.4	0.2	0.1	0.1	11.0	0.1	2.1		
	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	100.0	100.0	100.0	

State	Subarea	Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Pre-Ration- alization Average (1998–2004)	Post-Ration- alization Average (2006–2009)
All States Total		Rationalized Crab	74.3	72.8	46.4	44.8	46.4	52.0	49.0	47.6	39.4	49.4	55.6	61.1	56.7	51.7
		Non-Rationalized Crab	4.6	4.1	3.6	3.9	5.4	2.8	3.9	2.2	0.9	1.1	0.9	1.1	4.0	1.0
		Groundfish	18.6	20.0	44.0	45.5	42.6	39.1	40.6	44.7	53.3	43.3	39.0	33.2	34.3	42.0
		Salmon	0.3	0.3	0.2	0.1	0.0	0.1	0.4	0.3	0.5	0.5	0.4	0.4	0.2	0.4
		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	0.0	0.0
		Halibut	2.2	2.8	5.8	5.6	5.5	5.9	6.0	5.0	5.8	5.7	4.1	0.0	4.7	4.0
		Other Species	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.0	0.0	4.1	0.0	0.9
		TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

***Oregon and Other U.S. combined to allow for display of otherwise confidential data.

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

Table A1-7. BSAI Crab Processor Count by Community

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Pre-Ration- alization Average	Post-Ration- alization Average		
Alaska	South-Central	Cordova																	
		Bristol Bay Red	0	0	0	0	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	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	
		Western Aleutian Golden	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	--	0.0	
		Bering Tanner West	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
		Ninilchik																	
		Bristol Bay Red	0	0	0	0	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	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	
		Western Aleutian Golden	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	--	0.0		
	Bering Tanner West	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0		
	Wasilla																		
	Bristol Bay Red	0	0	0	0	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	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		
	Western Aleutian Golden	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	--	0.0		
	Bering Tanner West	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0		
	<i>South-Central Total</i>																		
	<i>Bristol Bay Red</i>			0	0	0	0	0	0	--	0	0	0	0	0	0	0.0	0.0	
	<i>Bering Sea Snow</i>			2	0	0	1	0	0	0	0	0	0	0	0	0	0.4	0.0	
	<i>Eastern Aleutian Golden</i>			0	0	0	0	0	0	0	--	0	0	0	0	0	0.0	0.0	
	<i>Western Aleutian Golden</i>			0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	
	<i>Bering Tanner East</i>			--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
	<i>Bering Tanner West</i>			--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
	Southeast																		
		Sitka																	
		Bristol Bay Red	0	0	0	0	0	0	0	--	1	0	0	0	0	0	0.0	0.2	
		Bering Sea Snow	0	0	0	0	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	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	
		Bering Tanner East	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
		Bering Tanner West	--	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0	
	<i>Southeast Total</i>																		
	<i>Bristol Bay Red</i>		0	0	0	0	0	0	--	1	0	0	0	0	0	0.0	0.2		
	<i>Bering Sea Snow</i>		0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0		
	<i>Eastern Aleutian Golden</i>		0	0	0	0	0	0	0	--	0	0	0	0	0	0.0	0.0		
	<i>Western Aleutian Golden</i>		0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0		
	<i>Bering Tanner East</i>		--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0		
	<i>Bering Tanner West</i>		--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0		

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Pre-Rationalization Average	Post-Rationalization Average																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Aleutians	Adak																		Bristol Bay Red	0	0	0	1	0	0	0	--	0	0	0	0	0	0.1	0.0			Bering Sea Snow	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1	0.0			Eastern Aleutian Golden	0	0	1	1	1	2	1	--	0	0	0	0	0	0.9	0.0			Western Aleutian Golden	0	0	2	4	3	1	3	2	2	1	1	2	0	1.9	1.2			Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Akutan																		Bristol Bay Red	1	1	1	1	1	1	1	--	1	1	2	1	2	1.0	1.4			Bering Sea Snow	1	1	1	1	0	1	1	1	1	1	2	1	1	0.9	1.2			Eastern Aleutian Golden	0	1	0	0	0	0	0	--	0	1	0	1	0	0.1	0.4			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	1	1	--	0.8			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Dutch Harbor/Unalaska																		Bristol Bay Red	7	7	6	6	6	7	6	--	4	5	7	7	4	6.4	5.4			Bering Sea Snow	9	9	6	6	5	6	6	6	7	8	6	4	4	6.6	5.8			Eastern Aleutian Golden	6	4	3	3	3	3	3	--	3	4	4	4	6	3.6	4.2			Western Aleutian Golden	4	2	4	4	3	2	2	2	2	2	2	5	4	2.9	3.0			Bering Tanner East	--	--	--	--	--	--	--	--	2	6	5	5	5	--	4.6			Bering Tanner West	--	--	--	--	--	--	--	--	5	5	2	4	3	--	3.8			King Cove																		Bristol Bay Red	1	1	1	1	2	3	1	--	1	3	1	2	2	1.4	1.8			Bering Sea Snow	1	1	2	1	1	1	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	0.0	0.0			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	2	2	--	1.2			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4
		Bristol Bay Red	0	0	0	1	0	0	0	--	0	0	0	0	0	0.1	0.0			Bering Sea Snow	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1	0.0			Eastern Aleutian Golden	0	0	1	1	1	2	1	--	0	0	0	0	0	0.9	0.0			Western Aleutian Golden	0	0	2	4	3	1	3	2	2	1	1	2	0	1.9	1.2			Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Akutan																		Bristol Bay Red	1	1	1	1	1	1	1	--	1	1	2	1	2	1.0	1.4			Bering Sea Snow	1	1	1	1	0	1	1	1	1	1	2	1	1	0.9	1.2			Eastern Aleutian Golden	0	1	0	0	0	0	0	--	0	1	0	1	0	0.1	0.4			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	1	1	--	0.8			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Dutch Harbor/Unalaska																		Bristol Bay Red	7	7	6	6	6	7	6	--	4	5	7	7	4	6.4	5.4			Bering Sea Snow	9	9	6	6	5	6	6	6	7	8	6	4	4	6.6	5.8			Eastern Aleutian Golden	6	4	3	3	3	3	3	--	3	4	4	4	6	3.6	4.2			Western Aleutian Golden	4	2	4	4	3	2	2	2	2	2	2	5	4	2.9	3.0			Bering Tanner East	--	--	--	--	--	--	--	--	2	6	5	5	5	--	4.6			Bering Tanner West	--	--	--	--	--	--	--	--	5	5	2	4	3	--	3.8			King Cove																		Bristol Bay Red	1	1	1	1	2	3	1	--	1	3	1	2	2	1.4	1.8			Bering Sea Snow	1	1	2	1	1	1	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	0.0	0.0			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	2	2	--	1.2			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																		
		Bering Sea Snow	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1	0.0			Eastern Aleutian Golden	0	0	1	1	1	2	1	--	0	0	0	0	0	0.9	0.0			Western Aleutian Golden	0	0	2	4	3	1	3	2	2	1	1	2	0	1.9	1.2			Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Akutan																		Bristol Bay Red	1	1	1	1	1	1	1	--	1	1	2	1	2	1.0	1.4			Bering Sea Snow	1	1	1	1	0	1	1	1	1	1	2	1	1	0.9	1.2			Eastern Aleutian Golden	0	1	0	0	0	0	0	--	0	1	0	1	0	0.1	0.4			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	1	1	--	0.8			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Dutch Harbor/Unalaska																		Bristol Bay Red	7	7	6	6	6	7	6	--	4	5	7	7	4	6.4	5.4			Bering Sea Snow	9	9	6	6	5	6	6	6	7	8	6	4	4	6.6	5.8			Eastern Aleutian Golden	6	4	3	3	3	3	3	--	3	4	4	4	6	3.6	4.2			Western Aleutian Golden	4	2	4	4	3	2	2	2	2	2	2	5	4	2.9	3.0			Bering Tanner East	--	--	--	--	--	--	--	--	2	6	5	5	5	--	4.6			Bering Tanner West	--	--	--	--	--	--	--	--	5	5	2	4	3	--	3.8			King Cove																		Bristol Bay Red	1	1	1	1	2	3	1	--	1	3	1	2	2	1.4	1.8			Bering Sea Snow	1	1	2	1	1	1	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	0.0	0.0			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	2	2	--	1.2			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																				
		Eastern Aleutian Golden	0	0	1	1	1	2	1	--	0	0	0	0	0	0.9	0.0			Western Aleutian Golden	0	0	2	4	3	1	3	2	2	1	1	2	0	1.9	1.2			Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Akutan																		Bristol Bay Red	1	1	1	1	1	1	1	--	1	1	2	1	2	1.0	1.4			Bering Sea Snow	1	1	1	1	0	1	1	1	1	1	2	1	1	0.9	1.2			Eastern Aleutian Golden	0	1	0	0	0	0	0	--	0	1	0	1	0	0.1	0.4			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	1	1	--	0.8			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Dutch Harbor/Unalaska																		Bristol Bay Red	7	7	6	6	6	7	6	--	4	5	7	7	4	6.4	5.4			Bering Sea Snow	9	9	6	6	5	6	6	6	7	8	6	4	4	6.6	5.8			Eastern Aleutian Golden	6	4	3	3	3	3	3	--	3	4	4	4	6	3.6	4.2			Western Aleutian Golden	4	2	4	4	3	2	2	2	2	2	2	5	4	2.9	3.0			Bering Tanner East	--	--	--	--	--	--	--	--	2	6	5	5	5	--	4.6			Bering Tanner West	--	--	--	--	--	--	--	--	5	5	2	4	3	--	3.8			King Cove																		Bristol Bay Red	1	1	1	1	2	3	1	--	1	3	1	2	2	1.4	1.8			Bering Sea Snow	1	1	2	1	1	1	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	0.0	0.0			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	2	2	--	1.2			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																						
		Western Aleutian Golden	0	0	2	4	3	1	3	2	2	1	1	2	0	1.9	1.2			Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Akutan																		Bristol Bay Red	1	1	1	1	1	1	1	--	1	1	2	1	2	1.0	1.4			Bering Sea Snow	1	1	1	1	0	1	1	1	1	1	2	1	1	0.9	1.2			Eastern Aleutian Golden	0	1	0	0	0	0	0	--	0	1	0	1	0	0.1	0.4			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	1	1	--	0.8			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Dutch Harbor/Unalaska																		Bristol Bay Red	7	7	6	6	6	7	6	--	4	5	7	7	4	6.4	5.4			Bering Sea Snow	9	9	6	6	5	6	6	6	7	8	6	4	4	6.6	5.8			Eastern Aleutian Golden	6	4	3	3	3	3	3	--	3	4	4	4	6	3.6	4.2			Western Aleutian Golden	4	2	4	4	3	2	2	2	2	2	2	5	4	2.9	3.0			Bering Tanner East	--	--	--	--	--	--	--	--	2	6	5	5	5	--	4.6			Bering Tanner West	--	--	--	--	--	--	--	--	5	5	2	4	3	--	3.8			King Cove																		Bristol Bay Red	1	1	1	1	2	3	1	--	1	3	1	2	2	1.4	1.8			Bering Sea Snow	1	1	2	1	1	1	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	0.0	0.0			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	2	2	--	1.2			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																								
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		Akutan																		Bristol Bay Red	1	1	1	1	1	1	1	--	1	1	2	1	2	1.0	1.4			Bering Sea Snow	1	1	1	1	0	1	1	1	1	1	2	1	1	0.9	1.2			Eastern Aleutian Golden	0	1	0	0	0	0	0	--	0	1	0	1	0	0.1	0.4			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	1	1	--	0.8			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Dutch Harbor/Unalaska																		Bristol Bay Red	7	7	6	6	6	7	6	--	4	5	7	7	4	6.4	5.4			Bering Sea Snow	9	9	6	6	5	6	6	6	7	8	6	4	4	6.6	5.8			Eastern Aleutian Golden	6	4	3	3	3	3	3	--	3	4	4	4	6	3.6	4.2			Western Aleutian Golden	4	2	4	4	3	2	2	2	2	2	2	5	4	2.9	3.0			Bering Tanner East	--	--	--	--	--	--	--	--	2	6	5	5	5	--	4.6			Bering Tanner West	--	--	--	--	--	--	--	--	5	5	2	4	3	--	3.8			King Cove																		Bristol Bay Red	1	1	1	1	2	3	1	--	1	3	1	2	2	1.4	1.8			Bering Sea Snow	1	1	2	1	1	1	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	0.0	0.0			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	2	2	--	1.2			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																														
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		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	1	1	--	0.8			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Dutch Harbor/Unalaska																		Bristol Bay Red	7	7	6	6	6	7	6	--	4	5	7	7	4	6.4	5.4			Bering Sea Snow	9	9	6	6	5	6	6	6	7	8	6	4	4	6.6	5.8			Eastern Aleutian Golden	6	4	3	3	3	3	3	--	3	4	4	4	6	3.6	4.2			Western Aleutian Golden	4	2	4	4	3	2	2	2	2	2	2	5	4	2.9	3.0			Bering Tanner East	--	--	--	--	--	--	--	--	2	6	5	5	5	--	4.6			Bering Tanner West	--	--	--	--	--	--	--	--	5	5	2	4	3	--	3.8			King Cove																		Bristol Bay Red	1	1	1	1	2	3	1	--	1	3	1	2	2	1.4	1.8			Bering Sea Snow	1	1	2	1	1	1	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	0.0	0.0			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	2	2	--	1.2			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																						
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		Eastern Aleutian Golden	6	4	3	3	3	3	3	--	3	4	4	4	6	3.6	4.2			Western Aleutian Golden	4	2	4	4	3	2	2	2	2	2	2	5	4	2.9	3.0			Bering Tanner East	--	--	--	--	--	--	--	--	2	6	5	5	5	--	4.6			Bering Tanner West	--	--	--	--	--	--	--	--	5	5	2	4	3	--	3.8			King Cove																		Bristol Bay Red	1	1	1	1	2	3	1	--	1	3	1	2	2	1.4	1.8			Bering Sea Snow	1	1	2	1	1	1	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	0.0	0.0			Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	2	2	--	1.2			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																		
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		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	0	1	1	2	2	--	1.2			Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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		Bering Tanner West	--	--	--	--	--	--	--	--	1	1	1	1	0	--	0.8			Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		Sand Point																		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		Bristol Bay Red	0	0	0	0	1	1	1	--	0	0	0	0	0	0.4	0.0			Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Bering Sea Snow	0	0	0	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	0.0	0.0			Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
		Western Aleutian Golden	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	--	0.0			Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0			St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		St. Paul																		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		Bristol Bay Red	1	1	0	0	0	1	0	--	1	1	2	1	2	0.4	1.4			Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		Bering Sea Snow	2	2	2	2	2	2	2	2	2	1	8	6	4	2.0	4.2			Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
		Eastern Aleutian Golden	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			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
		Western Aleutian Golden	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0			Bering Tanner East	--	--	--	--	--	--	--	--	1	0	2	3	2	--	1.6			Bering Tanner West	--	--	--	--	--	--	--	--	2	0	5	6	4	--	3.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Pre-Rationalization Average	Post-Rationalization Average
		<i>Aleutians Total</i>															
		<i>Bristol Bay Red</i>	10	10	8	9	10	13	9	--	7	10	12	11	10	9.9	10.0
		<i>Bering Sea Snow</i>	13	13	12	10	8	10	10	10	11	11	17	12	10	10.8	12.2
		<i>Eastern Aleutian Golden</i>	6	5	4	4	4	5	4	--	3	5	4	5	6	4.6	4.6
		<i>Western Aleutian Golden</i>	4	2	6	8	6	3	5	4	4	3	3	7	4	4.8	4.2
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	3	8	9	11	10	--	8.2
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	9	7	9	12	7	--	8.8
	Kodiak	Kodiak															
		<i>Bristol Bay Red</i>	1	3	8	8	3	4	4	--	3	3	4	4	4	4.4	3.6
		<i>Bering Sea Snow</i>	2	1	3	1	4	1	2	1	2	2	3	2	1	1.9	2.0
		<i>Eastern Aleutian Golden</i>	0	0	0	0	0	0	0	--	0	0	0	0	0	0.0	0.0
		<i>Western Aleutian Golden</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	0	0	0	1	1	--	0.4
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	1	0	0	0	0	--	0.2
	Alaska Total	Alaska Total															
		<i>Bristol Bay Red</i>	11	13	16	17	13	17	13	--	11	13	16	15	14	14.3	13.8
		<i>Bering Sea Snow</i>	17	14	15	12	12	11	12	11	13	13	20	14	11	13.0	14.2
		<i>Eastern Aleutian Golden</i>	6	5	4	4	4	5	4	--	3	5	4	5	6	4.6	4.6
		<i>Western Aleutian Golden</i>	4	2	6	8	6	3	5	4	4	3	3	7	4	4.8	4.2
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	3	8	9	12	11	--	8.6
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	10	7	9	12	7	--	9.0
Floating Catcher Processors		Floating Catcher Processors Total															
		<i>Bristol Bay Red</i>	0	0	6	6	10	8	8	--	4	3	3	3	2	5.4	3.0
		<i>Bering Sea Snow</i>	0	0	9	7	8	5	6	6	4	4	4	4	2	5.1	3.6
		<i>Eastern Aleutian Golden</i>	0	0	0	0	0	0	0	--	1	1	1	0	0	0.0	0.6
		<i>Western Aleutian Golden</i>	0	0	1	1	1	2	1	1	1	1	1	1	1	0.9	1.0
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	0	3	1	1	1	--	1.2
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	1	2	1	0	0	--	0.8
Inshore Stationary Floating Processors		Inshore Stationary Floating Processors Total															
		<i>Bristol Bay Red</i>	0	0	3	3	3	5	4	--	1	1	0	0	2	2.6	0.8
		<i>Bering Sea Snow</i>	0	0	8	6	6	6	6	3	4	9	2	2	4	4.4	4.2
		<i>Eastern Aleutian Golden</i>	0	0	0	0	0	0	0	--	1	0	0	0	0	0.0	0.2
		<i>Western Aleutian Golden</i>	0	0	0	0	0	0	0	0	3	0	0	0	0	0.0	0.6
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	1	0	0	2	3	--	1.2
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	3	1	0	1	1	--	1.2
Floating Domestic Mothership		Floating Domestic Mothership Total															
		<i>Bristol Bay Red</i>	0	0	0	0	0	0	0	--	0	0	0	0	0	0.0	0.0
		<i>Bering Sea Snow</i>	0	0	1	0	0	0	0	0	0	0	0	0	0	0.1	0.0
		<i>Eastern Aleutian Golden</i>	0	0	0	0	0	0	0	--	0	0	0	0	0	0.0	0.0
		<i>Western Aleutian Golden</i>	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1	0.0
		<i>Bering Tanner East</i>	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		<i>Bering Tanner West</i>	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0

State	Subarea	Community/Species	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Pre-Ration- alization Average	Post-Ration- alization Average
Unknown		Unknown Total															
		Bristol Bay Red	18	11	0	0	0	0	0	--	0	0	0	0	0	4.1	0.0
		Bering Sea Snow	36	28	0	0	0	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	0	0	0.4	0.0
		Western Aleutian Golden	4	1	2	0	0	0	0	0	0	0	0	0	0	0.9	0.0
		Bering Tanner East	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
		Bering Tanner West	--	--	--	--	--	--	--	--	0	0	0	0	0	--	0.0
All Processors		All Processors Total															
		Bristol Bay Red	29	24	25	26	26	30	25	--	16	17	19	18	18	26.4	17.6
		Bering Sea Snow	53	42	33	25	26	22	24	20	21	26	26	20	17	30.6	22.0
		Eastern Aleutian Golden	7	7	4	4	4	5	4	--	5	6	5	5	6	5.0	5.4
		Western Aleutian Golden	8	3	9	9	8	5	6	5	8	4	4	8	5	6.6	5.8
		Bering Tanner East	--	--	--	--	--	--	--	--	4	11	10	15	15	--	11.0
		Bering Tanner West	--	--	--	--	--	--	--	--	14	10	10	13	8	--	11.0

Source: Alaska Department of Fish and Game 2010; Alaska Commercial Fisheries Entry Commission 2010.

Table A1-8. CVO Shares – Initial Allocation and 2010–2011 Quota Shareholders

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders			
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	
Alaska	Anchorage	Bristol Bay Red	N	0	0	0.0	0	0	0.0	
			S	8	11,675,744	3.2	8	32,038,630	8.8	
		Bering Sea Snow	N	8	11,479,448	2.8	10	25,151,420	6.0	
			S	8	12,955,234	2.7	9	56,459,825	11.9	
		Bering Sea Tanner	U	8	2,666,137	1.5	0	0	0.0	
		Eastern Aleutian Golden	S	0	0	0.0	2	2,425,000	26.3	
		Western Aleutian Golden	U	0	0	0.0	2	2,484,898	23.8	
			W	0	0	0.0	1	2,179,568	20.9	
		Bering Tanner East	U	6	2,374,161	1.3	8	16,266,057	9.0	
		Bering Tanner West	U	6	2,374,161	1.3	8	16,266,056	9.0	
		Pribilof Is. Blue/Red	N	4	1,080,368	5.5	6	1,240,283	6.4	
			S	4	383,306	4.0	4	829,985	8.6	
		St. Matthew Blue	N	2	514,558	2.3	4	1,281,486	5.7	
			S	2	363,005	5.8	4	1,149,432	18.3	
		Western Aleutian Red	S	2	848,618	2.4	4	1,810,956	5.1	
		Dillingham	Bristol Bay Red	N	0	0	0.0	1	50,330	0.5
				S	1	3,307,771	0.9	1	5,104,532	1.4
			Bering Sea Snow	N	1	7,561,480	1.8	1	10,376,802	2.5
			S	1	700,244	0.1	1	2,828,554	0.6	
	Bering Sea Tanner		U	1	1,551,453	0.9	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	2	1,832,451	1.0	1	2,033,379	1.1	
	Bering Tanner West		U	1	1,832,451	1.0	1	2,033,379	1.1	
	Pribilof Is. Blue/Red		N	1	701,376	3.6	1	701,376	3.6	
			S	0	0	0.0	0	0	0.0	
St. Matthew Blue	N		1	189,939	0.8	1	212,921	0.9		
	S		0	0	0.0	1	26,758	0.4		
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	4	9,301,320	2.6		
	Bering Sea Snow	N	3	12,744,558	3.1	5	19,167,990	4.6		
		S	3	2,590,592	0.5	5	5,370,561	1.1		

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
		Bering Sea Tanner	U	3	2,922,441	1.6	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	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	10.2	5	2,332,303	12.0
			S	3	129,696	1.3	6	609,290	6.3
		St. Matthew Blue	N	0	0	0.0	2	342,734	1.5
			S	0	0	0.0	1	78,839	1.3
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
	Kenai	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	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	1	412,739	2.1
			S	0	0	0.0	1	27,010	0.3
		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
	King Cove	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	927,155	0.3	1	211,808	0.1
		Bering Sea Snow	N	0	0	0.0	0	0	0.0
			S	1	614,388	0.1	1	289,396	0.1
		Bering Sea Tanner	U	1	494,659	0.3	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	494,659	0.3	1	135,228	0.1
		Bering Tanner West	U	1	494,659	0.3	1	135,228	0.1

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	2	119,394	1.2	2	119,394	1.2
		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	5	768,603	8.1
			S	20	30,912,004	8.5	30	36,355,655	10.0
		Bering Sea Snow	N	19	44,041,099	10.6	30	56,468,450	13.6
			S	14	33,748,914	7.1	22	36,086,090	7.6
		Bering Sea Tanner	U	20	18,771,645	10.3	0	0	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	28	22,769,578	12.5
		Bering Tanner West	U	21	20,025,021	10.9	29	22,769,578	12.5
		Pribilof Is. Blue/Red	N	7	1,216,535	6.2	7	521,972	2.7
			S	5	523,982	5.5	9	646,053	6.7
		St. Matthew Blue	N	12	3,252,826	14.4	18	3,358,893	14.9
			S	4	417,563	6.7	11	436,537	7.0
		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	1	1,319,391	0.4
		Bering Sea Snow	N	3	4,505,115	1.1	4	4,505,115	1.1
			S	3	5,815,152	1.2	4	5,815,152	1.2
		Bering Sea Tanner	U	3	1,221,640	0.7	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	3	1,221,640	0.7	4	1,221,640	0.7
		Bering Tanner West	U	3	1,221,640	0.7	4	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	2	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

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
	St. Paul	Bristol Bay Red	N	0	0	0.0	1	738,746	7.8
			S	0	0	0.0	1	4,273,268	1.2
		Bering Sea Snow	N	0	0	0.0	1	843,061	0.2
			S	0	0	0.0	1	11,074,229	2.3
		Bering Sea Tanner	U	0	0	0.0	0	0	0.0
		Eastern Aleutian Golden	S	0	0	0.0	1	355,392	3.8
		Western Aleutian Golden	U	0	0	0.0	1	243,658	2.3
			W	0	0	0.0	1	224,836	2.2
		Bering Tanner East	U	0	0	0.0	1	1,613,224	0.9
		Bering Tanner West	U	0	0	0.0	1	1,613,224	0.9
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	1	262,622	2.7
		St. Matthew Blue	N	0	0	0.0	1	457,184	2.0
			S	0	0	0.0	1	256,097	4.1
		Western Aleutian Red	S	0	0	0.0	1	395,110	1.1
	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	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	1.1	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
	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	0.0
	Eastern Aleutian Golden	S	0	0	0.0	0	0	0.0	

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent 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	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	2.7	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
	Soldotna	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	1	455,687	0.1
		Bering Sea Snow	N	0	0	0.0	1	843,164	0.2
			S	0	0	0.0	1	308,398	0.1
		Bering Sea Tanner	U	0	0	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	209,314	0.1
		Bering Tanner West	U	0	0	0.0	1	209,314	0.1
		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	16,934	0.1
			S	0	0	0.0	0	0	0.0
		Western Aleutian Red	S	0	0	0.0	1	55,246	0.2
	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	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	4.9	2	474,530	4.9

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
		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
	Wasilla	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	0	0	0.0	1	346,801	0.1
		Bering Sea Snow	N	0	0	0.0	1	349,001	0.1
			S	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	0	0	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	133,850	0.1
		Bering Tanner West	U	0	0	0.0	1	133,850	0.1
		Pribilof Is. Blue/Red	N	0	0	0.0	1	105,415	0.5
			S	0	0	0.0	1	74,124	0.8
		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
	Yakutat	Bristol Bay Red	N	0	0	0.0	0	0	0.0
			S	1	921,242	0.3	1	460,621	0.1
		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	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	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	8	2,131,776	22.6
			S	39	58,759,951	16.2	52	92,911,322	25.6
		Bering Sea Snow	N	37	84,169,358	20.2	56	121,542,661	29.2

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
			S	33	61,539,949	13.0	47	123,347,630	26.1
		Bering Sea Tanner	U	40	29,207,797	16.1	0	0	0.0
		Eastern Aleutian Golden	S	1	200,725	2.2	4	2,981,117	32.3
		Western Aleutian Golden	U	1	212,781	2.0	4	2,941,337	28.2
			W	1	406,407	3.9	3	2,810,811	26.9
		Bering Tanner East	U	42	31,411,505	17.1	53	49,363,548	27.2
		Bering Tanner West	U	41	31,411,505	17.1	54	49,363,547	27.2
		Pribilof Is. Blue/Red	N	17	5,707,316	29.3	23	6,040,919	31.0
			S	16	1,630,908	17.0	26	3,043,008	31.7
		St. Matthew Blue	N	18	4,494,867	19.9	31	6,207,696	27.5
			S	8	807,515	12.9	20	1,974,610	31.5
		Western Aleutian Red	S	6	1,983,595	5.6	10	3,396,289	9.6
Washington	Washington Total	Bristol Bay Red	N	19	6,683,270	70.8	20	6,136,931	65.0
			S	165	251,116,943	69.3	165	226,922,071	62.6
		Bering Sea Snow	N	130	259,891,511	62.5	133	240,161,329	57.8
			S	148	341,611,087	72.3	142	300,662,762	63.6
		Bering Sea Tanner	U	169	125,736,784	69.3	0	0	0.0
		Eastern Aleutian Golden	S	13	7,694,171	83.4	9	3,967,052	43.0
		Western Aleutian Golden	U	10	4,593,571	44.1	6	1,865,015	17.9
			W	6	3,491,863	33.4	3	1,087,459	10.4
		Bering Tanner East	U	176	128,522,282	70.0	149	110,832,799	61.0
		Bering Tanner West	U	163	128,522,282	70.0	149	110,832,800	61.0
		Pribilof Is. Blue/Red	N	50	9,843,073	50.5	52	9,533,908	48.9
			S	44	6,105,894	63.5	43	5,070,321	52.8
		St. Matthew Blue	N	81	14,659,734	65.0	81	13,167,922	58.4
			S	56	5,271,980	84.1	60	4,165,884	66.5
		Western Aleutian Red	S	20	20,824,471	58.7	19	19,411,777	54.7
Oregon	Oregon Total	Bristol Bay Red	N	9	880,690	9.3	3	557,136	5.9
			S	38	43,214,469	11.9	23	27,120,822	7.5
		Bering Sea Snow	N	39	62,139,357	14.9	20	36,832,069	8.9
			S	33	55,072,368	11.7	18	26,710,452	5.7
		Bering Sea Tanner	U	38	23,142,651	12.7	0	0	0.0
		Eastern Aleutian Golden	S	2	1,336,124	14.5	2	2,282,851	24.7
		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	22	14,217,272	7.8

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
		Bering Tanner West	U	35	20,057,204	10.9	22	14,217,272	7.8
		Pribilof Is. Blue/Red	N	15	3,596,942	18.5	13	3,381,337	17.4
			S	13	1,337,579	13.9	8	911,935	9.5
		St. Matthew Blue	N	20	3,104,472	13.8	12	2,104,277	9.3
			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	13	15,654,031	4.3
		Bering Sea Snow	N	7	9,681,159	2.3	11	17,190,860	4.1
			S	8	14,382,856	3.0	11	21,885,416	4.6
		Bering Sea Tanner	U	9	3,467,227	1.9	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	10	3,518,567	1.9	13	7,155,939	3.9
		Bering Tanner West	U	8	3,518,567	1.9	13	7,155,939	3.9
		Pribilof Is. Blue/Red	N	2	330,216	1.7	2	521,383	2.7
			S	4	534,595	5.6	4	583,712	6.1
		St. Matthew Blue	N	4	297,872	1.3	8	1,077,050	4.8
			S	3	28,245	0.5	5	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, 2010.

Table A1-9. CVC Shares – Initial Allocation and 2010–2011 Quota Shareholders

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent 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	4	334,484	3.0
		Bering Sea Snow	N	7	661,665	4.9	4	750,907	5.5
			S	6	354,039	2.4	4	276,795	1.9
		Bering Sea Tanner	U	7	156,589	2.8	0	0	0.0
		Eastern Aleutian Golden	S	1	6,962	2.3	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	99,903	1.8	2	105,259	1.9
		Bering Tanner West	U	6	99,903	1.8	2	105,259	1.9
	Pribilof Is. Blue/Red	N	5	51,850	8.3	0	0	0.0	
		S	1	2,828	1.0	0	0	0.0	
	St. Matthew Blue	N	2	50,841	6.9	3	31,673	4.3	
		S	1	2,252	1.3	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	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	6	632,562	5.6	
	Bering Sea Snow	N	6	944,549	7.0	6	1,060,161	7.8	
		S	5	210,493	1.4	6	575,791	3.9	

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
		Bering Sea Tanner	U	4	143,044	2.6	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	6	207,378	3.8	6	217,354	3.9
		Bering Tanner West	U	5	207,378	3.8	6	217,354	3.9
		Pribilof Is. Blue/Red	N	3	70,084	11.2	4	83,630	13.3
			S	3	5,332	1.9	4	18,154	6.5
		St. Matthew Blue	N	1	17,002	2.3	2	20,833	2.8
			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	0	0	0.0
			S	1	18,594	0.2	0	0	0.0
		Bering Sea Snow	N	1	136,608	1.0	0	0	0.0
			S	0	0	0.0	0	0	0.0
		Bering Sea Tanner	U	1	28,957	0.5	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	0	0	0.0	0	0	0.0
			S	1	18,207	6.5	1	18,207	6.5
		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	2	90,638	0.8
		Bering Sea Snow	N	3	215,341	1.6	1	47,708	0.4
			S	3	230,772	1.5	1	77,785	0.5
		Bering Sea Tanner	U	4	142,853	2.6	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	3	100,184	1.8	2	63,422	1.1
		Bering Tanner West	U	3	100,184	1.8	2	63,422	1.1

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
		Pribilof Is. Blue/Red	N	2	23,886	3.8	1	10,392	1.7
			S	2	4,618	1.7	1	2,275	0.8
		St. Matthew Blue	N	2	18,008	2.4	1	6,457	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	2	48,858	16.4
			S	20	970,798	8.6	15	1,105,363	9.8
		Bering Sea Snow	N	17	2,134,613	15.8	12	1,760,574	13.0
			S	11	836,236	5.6	9	605,513	4.1
		Bering Sea Tanner	U	20	663,021	12.0	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	20	640,663	11.6	16	638,998	11.6
		Bering Tanner West	U	20	640,663	11.6	16	638,998	11.6
		Pribilof Is. Blue/Red	N	4	52,796	8.4	4	62,114	9.9
			S	3	15,430	5.5	3	23,551	8.5
		St. Matthew Blue	N	9	111,995	15.2	9	123,323	16.7
			S	6	14,334	8.3	6	8,069	4.7
		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	2	109,509	1.0
		Bering Sea Snow	N	1	153,059	1.1	2	236,920	1.8
			S	1	96,183	0.6	2	219,756	1.5
		Bering Sea Tanner	U	1	18,973	0.3	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	18,973	0.3	2	51,043	0.9
		Bering Tanner West	U	1	18,973	0.3	2	51,043	0.9
		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	8,118	1.1
			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			2010–2011 Quota Shareholders			
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent 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	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	1.4
				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	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	56,995	0.5
			Bering Sea Snow	N	1	43,126	0.3	1	131,066	1.0
				S	1	140,410	0.9	1	32,081	0.2
			Bering Sea Tanner	U	1	33,887	0.6	0	0	0.0
			Eastern Aleutian Golden	S	0	0	0.0	1	6,962	2.3

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent 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	2	37,797	0.7
		Bering Tanner West	U	1	33,887	0.6	2	37,797	0.7
		Pribilof Is. Blue/Red	N	1	23,500	3.7	1	23,725	3.8
			S	0	0	0.0	1	2,252	0.8
		St. Matthew Blue	N	0	0	0.0	1	4,783	0.6
			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	1	57,493	0.5
		Bering Sea Snow	N	1	62,932	0.5	1	62,932	0.5
			S	1	41,423	0.3	1	41,423	0.3
		Bering Sea Tanner	U	1	11,572	0.2	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	2	27,644	0.5	1	11,572	0.2
		Bering Tanner West	U	2	27,644	0.5	1	11,572	0.2
		Pribilof Is. Blue/Red	N	0	0	0.0	0	0	0.0
			S	1	11,654	4.2	1	11,654	4.2
		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	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

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent 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	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	1.4	1	8,488	1.4
			S	1	7,772	2.8	1	7,772	2.8
		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
	Alaska Total	Bristol Bay Red	N	6	134,229	45.0	3	79,312	26.6
			S	45	2,279,246	20.2	34	2,537,506	22.5
		Bering Sea Snow	N	37	4,351,893	32.1	28	4,184,641	30.9
			S	28	1,909,556	12.8	25	1,921,321	12.9
		Bering Sea Tanner	U	41	1,261,407	22.9	0	0	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	22.3	33	1,202,092	21.8
		Bering Tanner West	U	41	1,233,812	22.3	33	1,202,092	21.8
		Pribilof Is. Blue/Red	N	17	239,069	38.1	12	196,814	31.4
			S	12	65,841	23.6	12	83,865	30.2
		St. Matthew Blue	N	15	206,797	28.1	19	215,689	29.2
			S	8	16,911	9.9	9	15,089	8.8
		Western Aleutian Red	S	0	0	0.0	0	0	0.0
Washington	Washington Total	Bristol Bay Red	N	5	130,750	43.8	8	185,667	62.2
			S	106	7,181,960	63.7	80	6,963,437	61.7

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
		Bering Sea Snow	N	84	7,451,887	55.0	66	7,082,919	52.3
			S	90	10,496,610	70.5	71	10,671,265	71.6
		Bering Sea Tanner	U	98	3,284,299	59.6	0	0	0.0
		Eastern Aleutian Golden	S	9	204,859	68.3	8	194,876	65.0
		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	61.7	81	3,179,047	57.5
		Bering Tanner West	U	92	3,408,883	61.7	81	3,179,047	57.5
		Pribilof Is. Blue/Red	N	12	266,684	42.5	13	294,360	47.0
			S	12	150,361	54.0	11	144,583	52.0
		St. Matthew Blue	N	39	421,288	57.2	33	391,738	53.1
			S	30	145,692	84.9	26	146,545	85.1
		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	11	865,815	7.7
		Bering Sea Snow	N	13	988,385	7.3	10	954,078	7.0
			S	12	1,097,316	7.4	9	1,309,114	8.8
		Bering Sea Tanner	U	17	506,887	9.2	0	0	0.0
		Eastern Aleutian Golden	S	2	76,104	25.4	2	97,745	32.6
		Western Aleutian Golden	U	3	185,562	52.3	4	270,240	76.2
			W	3	205,069	61.2	4	253,838	75.7
		Bering Tanner East	U	18	605,096	11.0	14	634,453	11.5
		Bering Tanner West	U	16	605,096	11.0	14	634,453	11.5
		Pribilof Is. Blue/Red	N	4	52,401	8.3	3	38,855	6.2
			S	5	30,932	11.1	3	18,110	6.5
		St. Matthew Blue	N	4	50,807	6.9	4	60,142	8.1
			S	3	2,370	1.4	3	3,915	2.3
		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	913,391	8.1
		Bering Sea Snow	N	10	746,050	5.5	14	1,316,577	9.7
			S	13	1,391,964	9.3	12	993,746	6.7
		Bering Sea Tanner	U	15	458,432	8.3	0	0	0.0
		Eastern Aleutian Golden	S	1	12,064	4.0	0	0	0.0
		Western Aleutian Golden	U	2	84,678	23.9	0	0	0.0
			W	1	48,769	14.6	0	0	0.0

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
		Bering Tanner East	U	12	277,870	5.0	15	510,069	9.2
		Bering Tanner West	U	11	277,870	5.0	15	510,069	9.2
		Pribilof Is. Blue/Red	N	4	69,435	11.1	5	96,551	15.4
			S	4	31,447	11.3	4	31,447	11.3
		St. Matthew Blue	N	5	58,173	7.9	6	70,505	9.6
			S	3	6,704	3.9	3	6,704	3.9
		Western Aleutian Red	S	0	0	0.0	0	0	0.0

Note: CVC shares are not currently (2010) subject to regional landing requirements, nor have they been at any time during the BSAI crab rationalization program to date, but regionalization designations applied during the initial allocation process are still associated with these shares.

Source: National Marine Fisheries Service Alaska Regional Office 2008, 2010.

Table A1-10. CPO Shares – Initial Allocation and 2010–2011 Quota Shareholders

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
Alaska	Anchorage	Bristol Bay Red	U	1	777,429	4.4	2	2,022,487	11.4
		Bering Sea Snow	U	1	3,494,652	3.9	2	16,171,435	18.2
		Bering Sea Tanner	U	1	460,039	3.5	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	1	460,039	3.5	2	2,227,580	17.0
		Bering Tanner West	U	1	460,039	3.5	2	2,227,580	17.0
		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	
	St. Paul	Bristol Bay Red	U	0	0	0.0	1	1,883,177	10.6
		Bering Sea Snow	U	0	0	0.0	1	8,593,014	9.7
		Bering Sea Tanner	U	0	0	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	1	1,371,158	10.5
		Bering Tanner West	U	0	0	0.0	1	1,371,158	10.5
		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	3	3,905,664	22.1	
	Bering Sea Snow	U	1	3,494,652	3.9	3	24,764,449	27.9	
	Bering Sea Tanner	U	1	460,039	3.5	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	1	460,039	3.5	3	3,598,738	27.5	
	Bering Tanner West	U	1	460,039	3.5	3	3,598,738	27.5	
	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	8	13,792,984	77.9
		Bering Sea Snow	U	17	85,185,819	96.1	11	63,916,022	72.1
		Bering Sea Tanner	U	14	12,617,209	96.5	0	0	0.0
		Eastern Aleutian Golden	U	2	469,136	100.0	2	469,136	100.0

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region
		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	10	9,478,510	72.5
		Bering Tanner West	U	12	12,617,209	96.5	10	9,478,510	72.5
		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	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
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	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; 2010.

Table A1-11. CPC Shares – Initial Allocation and 2010–2011 Quota Shareholders

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent 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	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	25,739	5.2	0	0	0.0
		Bering Tanner West	U	1	25,739	5.2	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
	Kodiak	Bristol Bay Red	U	2	1,184	0.3	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	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		
Alaska Total	Bristol Bay Red	U	2	1,184	0.3	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	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	25,739	5.2	0	0	0.0	
	Bering Tanner West	U	1	25,739	5.2	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	
Washington	Washington Total	Bristol Bay Red	U	4	210,926	50.0	4	210,926	50.0
		Bering Sea Snow	U	6	1,230,257	69.3	6	1,540,610	86.8
		Bering Sea Tanner	U	12	408,191	82.8	0	0	0.0
		Eastern Aleutian Golden	U	0	0	0.0	0	0	0.0

State	Community	Species	Region	Initial Allocation			2010–2011 Quota Shareholders		
				Unique Holders	Quota Units	Percent of Total Quota Units for Species/Region	Unique Holders	Quota Units	Percent 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	12	402,621	81.6
		Bering Tanner West	U	11	376,882	76.4	12	402,621	81.6
		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	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	0.0
		Eastern Aleutian Golden	U	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	0	0	0.0	1	9,257	1.8
		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	2	209,621	49.7	2	209,621	49.7
		Bering Sea Snow	U	2	543,814	30.7	1	233,461	13.2
		Bering Sea Tanner	U	3	84,982	17.2	0	0	0.0
		Eastern Aleutian Golden	U	0	0	0.0	0	0	0.0
		Western Aleutian Golden	U	1	9,257	1.8	0	0	0.0
		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	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, 2010.

Table A1-12a. Comparison of Harvests of BSAI Crab Vessels* Participating and Not Participating in Rationalized Crab Fisheries Post-2005: Kodiak and State of Alaska

Kodiak										
Year	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
	Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)
		Rationalized Crab Species	Other Species	All Species		Rationalized Crab Species	Other Species	All Species		All Species
1998	28	\$22,658,353	\$4,286,838	\$26,945,191	17	\$2,724,529	\$6,279,438	\$9,003,967	45	\$35,949,158
1999	27	\$33,696,435	\$8,017,671	\$41,714,106	18	\$4,720,830	\$9,673,660	\$14,394,489	45	\$56,108,595
2000	25	\$11,235,802	\$9,343,883	\$20,579,685	16	\$2,250,414	\$8,354,894	\$10,605,308	41	\$31,184,993
2001	27	\$9,395,376	\$7,430,187	\$16,825,563	17	\$1,287,180	\$7,635,038	\$8,922,218	44	\$25,747,781
2002	21	\$10,881,455	\$5,858,635	\$16,740,089	15	\$2,350,474	\$8,799,784	\$11,150,258	36	\$27,890,347
2003	19	\$11,598,290	\$7,345,236	\$18,943,526	14	\$2,231,589	\$8,865,048	\$11,096,637	33	\$30,040,163
2004	20	\$10,602,417	\$7,397,833	\$18,000,250	15	\$2,159,921	\$10,291,004	\$12,450,925	35	\$30,451,175
2005	22	\$11,842,200	\$7,096,227	\$18,938,427	12	\$0	\$10,886,740	\$10,886,740	34	\$29,825,166
2006	18	\$8,205,205	\$7,498,409	\$15,703,614	13	\$0	\$12,733,171	\$12,733,171	31	\$28,436,785
2007	14	\$15,911,922	\$5,552,811	\$21,464,733	14	\$0	\$12,525,920	\$12,525,920	28	\$33,990,653
2008	14	\$30,001,715	\$5,568,073	\$35,569,788	11	\$0	\$14,465,813	\$14,465,813	25	\$50,035,601
2009	14	\$20,310,448	\$3,132,129	\$23,442,577	10	\$0	\$7,592,081	\$7,592,081	24	\$31,034,657
All Other Alaska Subregions (non-Kodiak)										
Year	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
	Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)
		Rationalized Crab Species	Other Species	All Species		Rationalized Crab Species	Other Species	All Species		All Species
1998	31	\$19,541,769	\$3,053,618	\$22,595,387	17	\$6,567,969	\$2,462,196	\$9,030,165	48	\$31,625,552
1999	27	\$24,519,745	\$4,477,334	\$28,997,079	13	\$7,217,158	\$4,218,330	\$11,435,487	40	\$40,432,566
2000	26	\$10,285,121	\$4,474,019	\$14,759,139	12	\$3,314,746	\$3,961,206	\$7,275,952	38	\$22,035,091
2001	24	\$7,172,667	\$3,694,562	\$10,867,229	8	\$1,353,320	\$2,186,166	\$3,539,486	32	\$14,406,715
2002	24	\$9,190,458	\$5,444,597	\$14,635,056	7	\$1,798,774	\$2,179,200	\$3,977,974	31	\$18,613,030
2003	21	\$9,442,225	\$2,742,771	\$12,184,996	7	\$1,516,595	\$2,383,448	\$3,900,043	28	\$16,085,039
2004	20	\$8,838,918	\$1,188,664	\$10,027,582	7	\$2,328,969	\$2,157,810	\$4,486,779	27	\$14,514,360
2005	19	\$7,969,796	\$1,978,806	\$9,948,603	4	\$0	\$2,227,661	\$2,227,661	23	\$12,176,263
2006	15	\$7,326,500	\$2,728,101	\$10,054,602	4	\$0	\$2,864,912	\$2,864,912	19	\$12,919,514
2007	19	\$27,771,180	\$4,801,165	\$32,572,346	5	\$0	\$4,596,646	\$4,596,646	24	\$37,168,991
2008	16	\$37,554,709	\$3,013,551	\$40,568,260	6	\$0	\$5,951,272	\$5,951,272	22	\$46,519,532
2009	17	\$23,036,653	\$3,527,332	\$26,563,985	7	\$0	\$4,995,278	\$4,995,278	24	\$31,559,263

Alaska Total										
Year	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
	Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)
		Rationalized Crab Species	Other Species	All Species		Rationalized Crab Species	Other Species	All Species		All Species
1998	59	\$42,200,123	\$7,340,455	\$49,540,578	34	\$9,292,498	\$8,741,634	\$18,034,131	93	\$67,574,709
1999	54	\$58,216,180	\$12,495,005	\$70,711,184	31	\$11,937,987	\$13,891,989	\$25,829,977	85	\$96,541,161
2000	51	\$21,520,922	\$13,817,902	\$35,338,824	28	\$5,565,160	\$12,316,100	\$17,881,260	79	\$53,220,084
2001	51	\$16,568,043	\$11,124,749	\$27,692,792	25	\$2,640,501	\$9,821,203	\$12,461,704	76	\$40,154,496
2002	45	\$20,071,913	\$11,303,232	\$31,375,145	22	\$4,149,247	\$10,978,984	\$15,128,232	67	\$46,503,376
2003	40	\$21,040,514	\$10,088,008	\$31,128,522	21	\$3,748,184	\$11,248,496	\$14,996,680	61	\$46,125,202
2004	40	\$19,441,336	\$8,586,497	\$28,027,832	22	\$4,488,889	\$12,448,814	\$16,937,704	62	\$44,965,536
2005	41	\$19,811,996	\$9,075,034	\$28,887,030	16	\$0	\$13,114,400	\$13,114,400	57	\$42,001,430
2006	33	\$15,531,706	\$10,226,511	\$25,758,216	17	\$0	\$15,598,083	\$15,598,083	50	\$41,356,299
2007	33	\$43,683,102	\$10,353,976	\$54,037,079	19	\$0	\$17,122,566	\$17,122,566	52	\$71,159,645
2008	30	\$67,556,424	\$8,581,624	\$76,138,048	17	\$0	\$20,417,085	\$20,417,085	47	\$96,555,133
2009	31	\$43,347,101	\$6,659,461	\$50,006,562	17	\$0	\$12,587,359	\$12,587,359	48	\$62,593,921

*Includes any vessel listed as fishing over the period 1998–2004 for any crab species that were later rationalized. Since 2005 was a transition year, pre- and post-rationalization averages do not include 2005.

Table A1-12b. Comparison of Harvests of BSAI Crab Vessels* Participating and Not Participating in Rationalized Crab Fisheries Post-2005: Seattle-Tacoma Consolidated Metropolitan Statistical Area and State of Washington

Seattle-Tacoma CMSA										
Year	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
	Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)
		Rationalized Crab Species	Other Species	All Species		Rationalized Crab Species	Other Species	All Species		All Species
1998	101	\$79,624,414	\$14,078,986	\$93,703,400	57	\$25,429,774	\$25,022,741	\$50,452,514	158	\$144,155,914
1999	104	\$116,265,797	\$21,001,384	\$137,267,181	60	\$37,287,125	\$36,538,912	\$73,826,038	164	\$211,093,219
2000	99	\$47,254,806	\$29,420,102	\$76,674,908	53	\$11,467,520	\$49,862,334	\$61,329,854	152	\$138,004,762
2001	101	\$41,370,836	\$22,933,249	\$64,304,085	51	\$8,436,083	\$47,229,751	\$55,665,834	152	\$119,969,919
2002	98	\$50,138,295	\$30,649,458	\$80,787,753	46	\$11,714,728	\$54,502,414	\$66,217,142	144	\$147,004,895
2003	103	\$66,234,049	\$32,006,293	\$98,240,341	48	\$12,689,233	\$50,777,759	\$63,466,992	151	\$161,707,334
2004	102	\$57,458,388	\$33,938,265	\$91,396,653	46	\$13,672,685	\$52,570,905	\$66,243,590	148	\$157,640,243
2005	105	\$79,709,340	\$38,174,500	\$117,883,840	29	\$0	\$59,080,303	\$59,080,303	134	\$176,964,143
2006	64	\$64,123,332	\$38,573,500	\$102,696,832	29	\$0	\$69,638,430	\$69,638,430	93	\$172,335,262
2007	59	\$76,775,445	\$38,327,403	\$115,102,848	29	\$0	\$62,591,755	\$62,591,755	88	\$177,694,603
2008	63	\$110,916,581	\$42,590,150	\$153,506,731	29	\$0	\$71,738,348	\$71,738,348	92	\$225,245,079
2009	61	\$88,222,013	\$22,033,280	\$110,255,294	28	\$0	\$43,453,607	\$43,453,607	89	\$153,708,901
All Other Washington Subregions (non-Seattle-Tacoma CMSA)										
Year	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
	Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)
		Rationalized Crab Species	Other Species	All Species		Rationalized Crab Species	Other Species	All Species		All Species
1998	11	\$5,276,750	\$406,776	\$5,683,526	9	\$5,292,238	\$1,278,156	\$6,570,394	20	\$12,253,920
1999	12	\$10,716,530	\$1,852,740	\$12,569,269	7	\$5,474,629	\$2,881,943	\$8,356,572	19	\$20,925,841
2000	11	\$3,638,340	\$1,245,507	\$4,883,847	6	\$1,999,861	\$2,174,454	\$4,174,314	17	\$9,058,161
2001	11	\$2,762,573	\$272,043	\$3,034,616	5	\$1,661,263	\$684,718	\$2,345,981	16	\$5,380,597
2002	11	\$3,908,818	\$614,098	\$4,522,916	5	\$1,837,526	\$437,551	\$2,275,077	16	\$6,797,993
2003	14	\$8,163,871	\$2,414,821	\$10,578,692	5	\$2,213,458	\$709,593	\$2,923,051	19	\$13,501,743
2004	15	\$6,441,486	\$2,993,240	\$9,434,726	5	\$2,213,401	\$519,316	\$2,732,717	20	\$12,167,442
2005	15	\$9,755,423	\$2,043,989	\$11,799,412	0	\$0	\$0	\$0	15	\$11,799,412
2006	9	\$6,553,806	\$2,937,783	\$9,491,589	0	\$0	\$0	\$0	9	\$9,491,589
2007	7	\$5,462,217	\$4,058,667	\$9,520,883	0	\$0	\$0	\$0	7	\$9,520,883
2008	7	\$7,646,985	\$4,416,891	\$12,063,876	0	\$0	\$0	\$0	7	\$12,063,876
2009	7	\$5,277,597	\$2,865,494	\$8,143,091	0	\$0	\$0	\$0	7	\$8,143,091

Washington Total										
Year	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
	Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)
		Rationalized Crab Species	Other Species	All Species		Rationalized Crab Species	Other Species	All Species		All Species
1998	112	\$84,901,164	\$14,485,762	\$99,386,926	66	\$30,722,012	\$26,300,897	\$57,022,909	178	\$156,409,834
1999	116	\$126,982,327	\$22,854,124	\$149,836,450	67	\$42,761,754	\$39,420,855	\$82,182,610	183	\$232,019,060
2000	110	\$50,893,146	\$30,665,609	\$81,558,755	59	\$13,467,381	\$52,036,787	\$65,504,168	169	\$147,062,923
2001	112	\$44,133,409	\$23,205,293	\$67,338,702	56	\$10,097,346	\$47,914,469	\$58,011,815	168	\$125,350,517
2002	109	\$54,047,113	\$31,263,556	\$85,310,669	51	\$13,552,254	\$54,939,965	\$68,492,219	160	\$153,802,888
2003	117	\$74,397,919	\$34,421,114	\$108,819,033	53	\$14,902,691	\$51,487,352	\$66,390,043	170	\$175,209,077
2004	117	\$63,899,874	\$36,931,505	\$100,831,379	51	\$15,886,086	\$53,090,221	\$68,976,307	168	\$169,807,686
2005	120	\$89,464,764	\$40,218,489	\$129,683,252	29	\$0	\$59,080,303	\$59,080,303	149	\$188,763,555
2006	73	\$70,677,138	\$41,511,283	\$112,188,421	29	\$0	\$69,638,430	\$69,638,430	102	\$181,826,851
2007	66	\$82,237,662	\$42,386,070	\$124,623,732	29	\$0	\$62,591,755	\$62,591,755	95	\$187,215,486
2008	70	\$118,563,566	\$47,007,041	\$165,570,607	29	\$0	\$71,738,348	\$71,738,348	99	\$237,308,955
2009	68	\$93,499,611	\$24,898,774	\$118,398,385	28	\$0	\$43,453,607	\$43,453,607	96	\$161,851,992

*Includes any vessel listed as fishing over the period 1998–2004 for any crab species that were later rationalized. Since 2005 was a transition year, pre- and post-rationalization averages do not include 2005.

Table A1-12c. Comparison of Harvests of BSAI Crab Vessels* Participating and Not Participating in Rationalized Crab Fisheries Post-2005: Oregon and Other U.S. and All States Total

Oregon and Other U.S. (non-Alaska and non-Washington)										
Year	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
	Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)
		Rationalized Crab Species	Other Species	All Species		Rationalized Crab Species	Other Species	All Species		All Species
1998	12	\$10,481,964	\$2,842,616	\$13,324,581	12	\$5,789,125	\$3,644,542	\$9,433,666	24	\$22,758,247
1999	13	\$14,893,923	\$4,286,111	\$19,180,035	14	\$10,098,343	\$5,846,477	\$15,944,821	27	\$35,124,855
2000	15	\$7,680,241	\$5,381,742	\$13,061,983	13	\$6,797,445	\$8,341,875	\$15,139,319	28	\$28,201,302
2001	15	\$6,291,316	\$4,676,361	\$10,967,677	11	\$4,380,584	\$6,992,163	\$11,372,747	26	\$22,340,424
2002	21	\$10,258,384	\$7,117,595	\$17,375,978	11	\$5,601,767	\$8,595,850	\$14,197,617	32	\$31,573,595
2003	24	\$14,713,305	\$9,265,105	\$23,978,410	12	\$7,991,330	\$9,565,665	\$17,556,995	36	\$41,535,405
2004	21	\$12,947,323	\$7,282,432	\$20,229,755	12	\$6,176,776	\$9,575,405	\$15,752,182	33	\$35,981,937
2005	21	\$17,796,905	\$7,059,260	\$24,856,165	7	\$207,378	\$11,464,876	\$11,672,254	28	\$36,528,420
2006	15	\$15,905,095	\$8,921,614	\$24,826,709	6	\$0	\$10,989,590	\$10,989,590	21	\$35,816,300
2007	14	\$20,569,133	\$7,520,034	\$28,089,167	6	\$0	\$10,172,509	\$10,172,509	20	\$38,261,676
2008	12	\$25,358,572	\$9,125,408	\$34,483,980	5	\$0	\$12,338,414	\$12,338,414	17	\$46,822,394
2009	13	\$16,687,965	\$3,343,551	\$20,031,516	6	\$0	\$6,712,827	\$6,712,827	19	\$26,744,343
All States Total										
Year	Crab Vessels In Rationalized Crab After 2004				Crab Vessels Not in Rationalized Crab After 2004				All Crab Vessels	
	Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)			Unique Vessels	Total Value (dollars)
		Rationalized Crab Species	Other Species	All Species		Rationalized Crab Species	Other Species	All Species		All Species
1998	183	\$137,583,251	\$24,668,834	\$162,252,084	112	\$45,803,634	\$38,687,072	\$84,490,706	295	\$246,742,791
1999	183	\$200,092,430	\$39,635,240	\$239,727,669	112	\$64,798,085	\$59,159,322	\$123,957,407	295	\$363,685,076
2000	176	\$80,094,309	\$49,865,253	\$129,959,562	100	\$25,829,985	\$72,694,762	\$98,524,747	276	\$228,484,310
2001	178	\$66,992,768	\$39,006,402	\$105,999,170	92	\$17,118,431	\$64,727,835	\$81,846,266	270	\$187,845,437
2002	175	\$84,377,410	\$49,684,382	\$134,061,793	84	\$23,303,268	\$74,514,799	\$97,818,067	259	\$231,879,860
2003	181	\$110,151,739	\$53,774,227	\$163,925,966	86	\$26,642,204	\$72,301,513	\$98,943,718	267	\$262,869,683
2004	178	\$96,288,533	\$52,800,433	\$149,088,966	85	\$26,551,752	\$75,114,440	\$101,666,192	263	\$250,755,158
2005	182	\$127,073,665	\$56,352,782	\$183,426,447	52	\$207,378	\$83,659,579	\$83,866,957	234	\$267,293,404
2006	121	\$102,113,939	\$60,659,407	\$162,773,347	52	\$0	\$96,226,103	\$96,226,103	173	\$258,999,450
2007	113	\$146,489,898	\$60,260,080	\$206,749,977	54	\$0	\$89,886,829	\$89,886,829	167	\$296,636,807
2008	112	\$211,478,562	\$64,714,073	\$276,192,634	51	\$0	\$104,493,847	\$104,493,847	163	\$380,686,482
2009	112	\$153,534,676	\$34,901,786	\$188,436,462	51	\$0	\$62,753,793	\$62,753,793	163	\$251,190,256

*Includes any vessel listed as fishing over the period 1998–2004 for any crab species that were later rationalized. Since 2005 was a transition year, pre- and post-rationalization averages do not include 2005.

ATTACHMENT 2

**SOCIAL IMPACT ASSESSMENT
COMMUNITY PROFILE UPDATE METHODOLOGY**

ATTACHMENT 2

SOCIAL IMPACT ASSESSMENT

COMMUNITY PROFILE UPDATE METHODOLOGY

Overview

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, 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 2009, 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 indicators for pre- and post-rationalization implementation years over the span of 1998 through 2009–2010.¹ There are, however, substantial limitations on the data that can be utilized for these purposes, based on confidentiality restrictions. A prime example of this is where a community is the site of a single processor, or even two or three processors. No information can be disclosed about the volume and value of crab landings in those communities. This, obviously, severely limits quantitative discussions of the 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 2010/2011 season (the most recent available information).²

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

¹ See discussion of assignment of location of ownership and activity below for spatial analysis considerations.

² Consistent with the approach used in the main body of this crab rationalization 5-year program review dollar figures in the social impact assessment are typically not adjusted for inflation. As stated in the main document, “generally, inflation rates have been low in recent years, averaging less than three percent per year (see BLS, 2010). In addition, crab prices tend to vacillate erratically with variation that greatly exceeds inflation rates. Consequently, dollars in the tables in this report are not inflated (unless specifically noted).”

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 preimplementation BSAI crab rationalization social impact assessment. These are Unalaska/Dutch Harbor, Akutan, King Cove, Kodiak, Sand Point, Adak, St. Paul, and St. George.³ 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 other documents 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 3⁴). 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), St. Paul (Section 2.2), King Cove (Section 2.3), and Kodiak (Section 2.4). Three of these profiles were updated through fieldwork for this 5-year program review social impact assessment (Unalaska/Dutch Harbor, King Cove, and Kodiak) while one (St. Paul) was updated through phone contacts and written correspondence. While at least some information has been gathered for all eight communities previously analyzed, these four communities were chosen for more comprehensive data collection and profile updating based upon the results of the BSAI crab rationalization program review social impact assessment results.

Each of these profiles explicitly builds upon the profiles of these communities developed for the pre-rationalization crab social impact assessment referenced above and, in the case of Unalaska/Dutch Harbor, King Cove, and Kodiak, on those contained in *Comprehensive Baseline*

³ These communities were chosen for the preimplementation crab rationalization social impact assessment based on then-current understandings of the level of engagement in, and dependence on, the BSAI crab fisheries being considered for inclusion in the rationalization program, consistent with National Standard 8 under the Magnuson-Stevens Act. Seven of these eight communities (all but Sand Point) were later determined eligible for community protection measures under the rationalization program as implemented. Eligible Crab Communities were defined as those with 3 percent or more of the qualified landings in any fishery included in the program. In addition to the communities included in the earlier profiles, False Pass and Port Moller were also designated as Eligible Crab Communities, as discussed Section 1.3.9. Community protection measures applicable to these nine Eligible Crab Communities include (or included) right of first refusal on proposed sales of processor quota shares (except for Adak) and a “cooling-off” period (a temporary prohibition against the use of individual processor quota outside of the community or borough boundary in which the individual processor quota was derived). Regions assigned to quota share/individual fishing quota and processing share/individual processing quota for most fisheries protect the Pribilof Islands in the BSAI and an additional “sweep up” measure for processing quota derived within the Gulf of Alaska but otherwise not assigned to a community protects Kodiak Island in the Gulf of Alaska.

⁴ Available at <http://alaskafisheries.noaa.gov/sustainablefisheries/crab/eis/#final>.

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, the *Comprehensive Baseline Commercial Fishing Community Profiles: Unalaska, Akutan, King Cove, and Kodiak* (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 5-year review-oriented community analysis; it has not been updated in the community profiles included in this document (nor was it updated for the 3-year program review), but this information is readily available⁵ for review in the original document. For the BSAI crab rationalization 3-year program review social impact assessment, the community profiles of Unalaska/Dutch Harbor, Akutan, King Cove, and Kodiak were comprehensively updated through field efforts and appeared as an appendix to the program review document itself (NPFMC 2008, Appendix A). As part of the update of the community profiles for Unalaska/Dutch Harbor, King Cove, and Kodiak for the current 5-year program review effort, information from the 3-year program review update has been retained where relevant to allow a look at social impacts that were seen to occur at both the 3-year and 5-year marks.

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 were (and remain) readily available⁶ for review, and were distributed to the NPFMC at its constituent bodies during the BSAI crab rationalization 3-year program review process, they were incorporated by reference rather than reproduced in the 3-year program review social impact assessment itself. The St. Paul community profile included in this 5-year program review explicitly builds upon and updates this earlier St. Paul community profile.

Assignment of Location of Ownership and Activity

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 Alaska Commercial Fisheries Entry Commission vessel registration files or National Oceanic and Atmospheric Administration (NOAA) Fisheries federal permit data. As

⁵ 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.

⁶ 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.

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 preimplementation community and social impact assessment (NOAA 2004) as well as the 3-year program review social impact assessment to facilitate pre- and post-implementation Bering Sea and Aleutian Islands (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 preimplementation 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 assessment. One example cited in the 3-year program review social impact assessment is Juneau, where (a) no BSAI crab vessel ownership is apparent for any of the years 1998–2007 in the BSAI crab dataset, (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, also cited in the 3-year program review social impact assessment, 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.⁷

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 preimplementation social impact assessment, as well as in the 3-year program review social impact assessment, although in the case of the preimplementation 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.

⁷ For an example of the comparison of community of ownership and homeport community for one of the rationalized fisheries for 1 year for Alaska and Washington, please see the additional note at the end of this methodology attachment.

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 the effort for the 3-year program review was in effect an augmentation of the earlier work accomplished for the Steller Sea Lion Protection Measures Supplemental EIS (SEIS) (the SSL SEIS for short), the American Fisheries Act (AFA) Report to Congress, the Groundfish SEIS, and BSAI Crab Fisheries EIS Social Impact Assessment, as well as NPFMC/NPRB profiles, and used that work as a foundation; these documents built upon the preimplementation crab rationalization social impact assessment (NOAA 2004, Appendix 3). This crab rationalization 5-year program review document, in turn, builds directly upon the 3-year program review document.

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 prefield 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 fieldwork was conducted in three communities as part of the update process. In-person interviews took place in Unalaska/Dutch Harbor September 26–October 1, 2010. Fieldwork in King Cove took place May 18–22, 2010, while fieldwork in Kodiak took place May 12–17, 2010. Phone contacts and an exchange of written correspondence with entities from each of the communities occurred both before and after fieldwork. In general, field efforts focused on two major undertakings. First was recontacting entities interviewed during pre-rationalization social impact assessment work and the 3-year program review process to provide a framework for direct pre- and post-rationalization comparisons (at two points in time) 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. In the case of St. Paul, information for updating the community profile was gathered through a combination of telephone calls and written correspondence alone and not supplemented with direct fieldwork as was the case in the other three communities profiled in this document. Most of the telephone contacts and exchange of written correspondence with St. Paul entities took place in October 2010. Other in-person contacts were made in Anchorage and phone contacts were made with entities or individuals for all communities profiled, along with Seattle.

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 profile update communities identified in the scope of work (Unalaska/Dutch Harbor, St. Paul, King Cove, and Kodiak), although supplemental phone contacts were made for all of the communities included in the larger analysis (Sand Point, Akutan, Adak, and St. George, 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 social impact assessment work (and the 3-year rationalization program review effort) 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 20 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 in the *Cultural Resource Management Guideline*, Release 4 (1994) and the NOAA *Guidelines and Principles for Social Impact Assessment* (1994). 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 social impact assessment 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—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, 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.

“Standard Protocol” Interviews: 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.

Key Person Interviews: 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 semistructured because the interviewees involved usually have busy schedules and time constraints. Although semistructured interviews maintain the same open-ended quality of informal interviews, the structure of the interviews is determined by the researcher. Semistructured 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 or 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 the 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 nonrandom 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 ensure 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 nonprobability 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 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 as well as the results of 3-year crab rationalization program review social impact assessment, the decision was made to focus on those Alaska communities with the most direct linkages to the BSAI crab fisheries that also showed relatively complex social impacts at that time of the 3-year program review—Unalaska/Dutch Harbor, St. Paul, King Cove, and Kodiak for the present profiling effort. 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 vessel 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 have been well documented as part of the public input process before the NPFMC, so while prominently included in the analysis, 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	10
	Processors (Companies)	7
	Catcher Vessel Owners/Crew/Entities	3
	Support Service Entities	30
	Native Corporation/Tribal Entities/CDQ Groups	2
	Other	1
St. Paul	City	2
	Processors (Companies)	1
	Catcher Vessel Owners/Crew/Entities	0
	Support Service Entities	2
	Native Corporation/Tribal Entities/CDQ Groups	2
	Other	2
King Cove	City/Borough	7
	Processors (Companies)	1
	Catcher Vessel Owners/Crew/Entities	16
	Support Service Entities	18
	Native Corporation/Tribal Entities/CDQ Groups	6
	Other	1
Kodiak	City/Borough	6
	Processors (Companies)	8
	Catcher Vessel Owners/Crew/Entities	15
	Support Service Entities	19
	Native Corporation/Tribal Entities/CDQ Groups	0
	Other	8

Other Methodological Considerations

There are three 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 not 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 recontacting entities that had previously been interviewed during the pre-BSAI crab rationalization social impact assessment process as well as during the 3-year program review process to help provide a perspective on potential recall or self-interest bias.

Additional Note: Example Vessel Ownership and Homeport Location

In the assignment of location of ownership and activity discussion above, location of vessel ownership address and vessel homeport were contrasted in general terms. In looking at an example of the relationship between vessel owner’s city of residence and the registered homeport of the vessel, of the 68 vessels that participated in the Bristol Bay red king crab fishery in 2009, 17 have Alaska ownership addresses and 43 have Washington ownership addresses (with the balance consisting of vessels with ownership addresses in other states). Of the same 68 vessels, 27 have homeports within Alaska and 35 have homeports in Washington. Looking at the overlap between these two variables, of the 27 Alaska-homeported vessels that participated in the red king crab fishery in 2009, 14 have Alaska ownership addresses. Of the 35 Washington-homeported vessels that participated in the red king crab fishery in 2009, 31 have Washington ownership addresses. The data from 2009 also show that 10 vessels with Washington ownership addresses have homeports in Alaska, while 3 vessels with Alaska ownership addresses are homeported in Washington, such that it is much more likely for a vessel to have a Washington ownership address and an Alaska homeport, than for it to have an Alaska ownership address and a Washington homeport.⁸ The 10 vessels with Washington ownership addresses but Alaska homeport addresses were distributed as follows:

⁸ The three vessels with Alaska ownership but Washington homeports have similar names, suggesting that one person may own these three vessels, in which case only one Alaska-based owner in this example would have vessels homeported in Washington.

<u>AK Homeport</u>	<u>WA Ownership</u>
Anchorage	Seattle (1)
Dillingham	Seattle (1)
Dutch Harbor	Seattle (1)
Emmonak	Ferndale (1)
Juneau	Seattle (1)
Kodiak	Seattle (1), Shoreline (1), Other (1)
Petersburg	Seattle (1)
Sand Point	Edmonds (1)

When comparing the vessel ownership city and homeport city alone, of the 68 vessels that participated in the Bristol Bay red king crab fishery in 2009, only 27 vessels (39.7 percent) had identical city of ownership and homeport city. In this case, within Alaska, Homer was homeport to one Kodiak-owned vessel, Juneau was homeport to three Homer-owned and one Kodiak-owned vessel, and Kodiak was homeport to one Anchorage-owned vessel. Kodiak and Seldovia were unique among Alaska communities in being homeport to vessels with ownership addresses in the same community (seven vessels in Kodiak and one vessel in Seldovia).⁹ Similar patterns are also evident for the Bering Sea snow crab fishery vessels in 2009 and, while the specific numbers may vary between individual rationalized crab fisheries, it is clear that—to the extent that homeport reflects some measure of economic activity in that location for even a portion of the fleet—Alaska ports benefit disproportionately from vessels with Washington (and other Lower 48) ownership addresses, which, of course, makes intuitive sense based on the location of the fisheries activities themselves.

⁹ In addition to the Washington and Alaska vessels listed, Kodiak was also the homeport for three vessels with Oregon ownership addresses in the 2009 Bristol Bay red king crab fishery (one each from Cascade Locks, Milton-Freewater, and Newport, Oregon). No other Alaska community was listed as a homeport to any vessels fishing in the 2009 Bristol Bay red king crab fishery (in addition to those already listed in this discussion).

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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

Business Type	2002				2003				2004				2005				2006				2007				2008
	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

Business Type	2003				2004				2005				2006				2007				2008
	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

Business Type	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							
	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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